



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

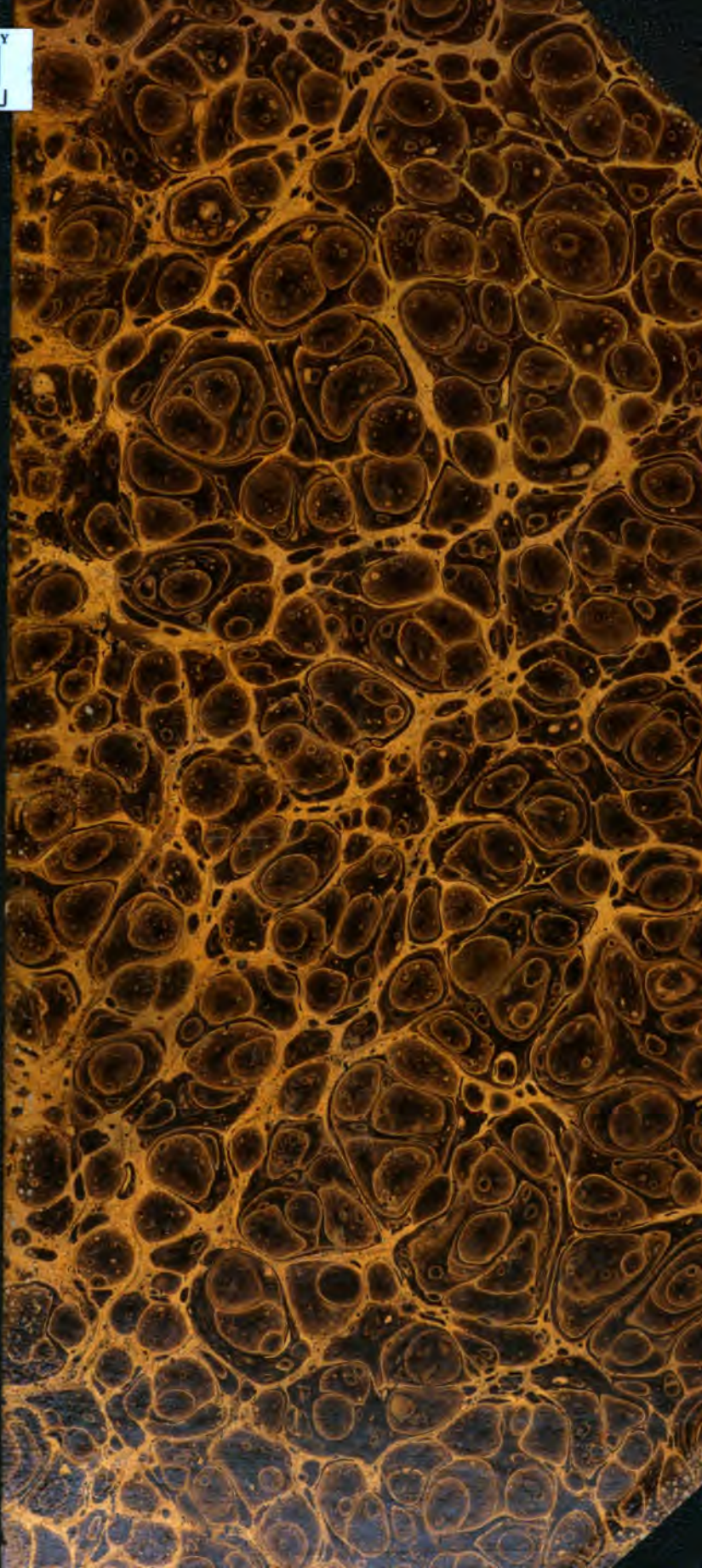
About Google Book Search

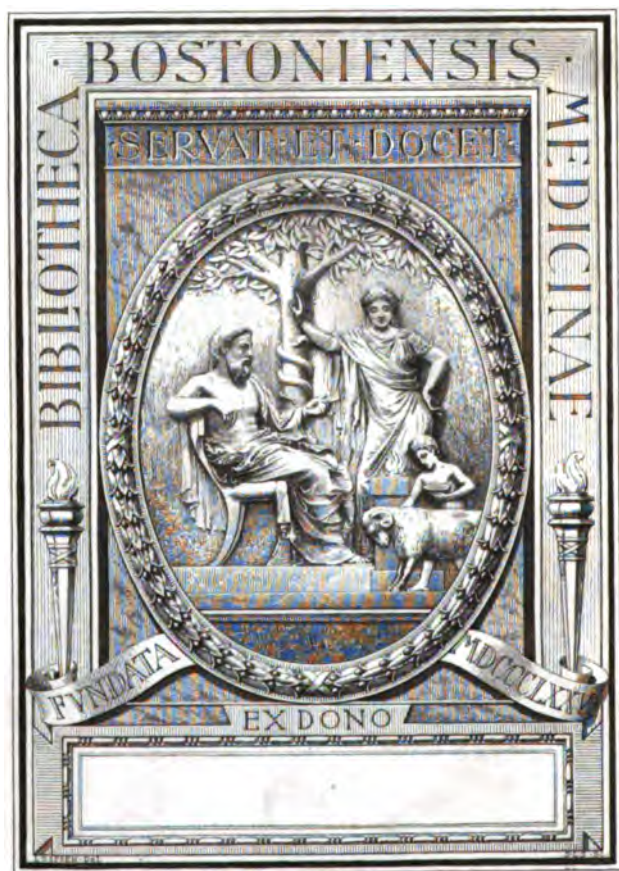
Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

COUNTWAY LIBRARY



HC 3XMT U





ST. LOUIS

COURIER OF MEDICINE.

EDITOR :

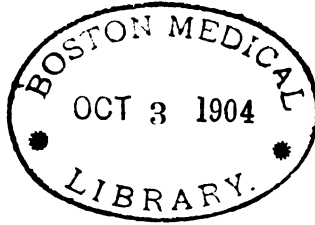
JOHN ZAHORSKY, M.D.

ASSOCIATE EDITORS :

BLISS, M. A.		BLEYER, A.
CAPLAN, L.	FISCH, C.	GELLHORN, G.
HOFFMAN, PHIL.	JAMES, J. A. J.	JOHNSON, W. L.
LEVY, A.	LIPPE, M. J.	MOORE, W. B.
NEWCOMB, PHILIP.	GORIN, M. G.	SHOEMAKER, W. A.
E. B. JACKSON and P. H. SHARP, Correspondents.		

VOL. XXX. JAN'Y—JUNE, 1904.

ST. LOUIS, MO.,
COURIER OF MEDICINE CO.,
1904.



CONTRIBUTORS TO VOL. XXX.

JANUARY—JUNE, 1904.

CAMPBELL, GIVEN, St. Louis,	- - - - -	266
BRANSON, LAURA H., Iowa City, Iowa.,	- - - - -	76
BUCHANAN, J. M., St. Louis,	- - - - -	257
DERIVEAX, A., St. Louis,	- - - - -	8
DIXON, C. H., St. Louis,	- - - - -	147
GAYLER, W. C., St. Louis,	- - - - -	197
GRINDON, JOSEPH, St. Louis,	- - - - -	321
HARDAWAY, W. A., St. Louis,	- - - - -	145
HERTZLER, A. E., Kansas City, Mo.,	- - - - -	1
HILL, ROLAND, St. Louis,	- - - - -	328
KIRCHNER, C. G., St. Louis,	- - - - -	264
LIPPE, M. J., St. Louis,	- - - - -	336
MAYO, CHAS. H., Rochester, Minn.,	- - - - -	81
PFEIFFENBERGER, J. M., St. Louis,	- - - - -	260
RIVIERE, J. A., Paris, France,	- - - - -	137
SAUNDERS, E. W., St. Louis,	- - - - -	65
SNODGRASS, C. A., St. Louis,	- - - - -	141
STEWART, JOHN, Chicago,	- - - - -	12
TYNDALE, J. H., Lincoln, Neb.,	- - - - -	193
ZAHORSKY, JOHN, St. Louis,	- - - - -	129



INDEX TO VOLUME XXX.

JANUARY—JUNE, 1904.

Original Contributions.

- Abdomen, regions of the, from the surgeon's standpoint—A. E. Hertzler, Kansas City, Mo., 1.
- Burns: prognosis and treatment—Laura H. Branson, Iowa City, Iowa, 76.
- Cancer, physiotherapy in the cure of—J. A. Riviere, Paris, France, 137.
- Diarrhea, the serum treatment of summer—John Zahorsky, St. Louis, 129.
- Epilepsy, recent therapy in—Given Campbell, St. Louis, 266.
- Finsen light cure, the—John Stewart, Chicago, 12.
- Frost-bite in young children, a brief note on—W. A. Hardaway, St. Louis, 145.
- Hematocoele, retrouterine—W. C. Gayler, St. Louis, 197.
- Hernæ, femoral—Roland Hill, St. Louis, 328.
- Leukemia—J. M. Buchanan, St. Louis, 257.
- Ligation of the common carotid artery—J. M. Pfeifferberger, St. Louis, 260.
- Lymphatic system, the surgical pathology of the—Chas. H. Mayo, Rochester, Minn., 81.
- Milk, experiments in the preservation of—C. A. Snodgrass, St. Louis, 141.
- Osteomyelitis, acute, of the femur—C. G. Kirchner, St. Louis, 264.
- Pregnancy complicated with cyst of the ovary—C. H. Dixon, St. Louis, 147.

- Respiration, permanent mechanical hinderances to—J. H. Tyndale, Lincoln, Neb., 193.
- Tænia in a child—M. J. Lippe, St. Louis, 335.
- Therapeutics in infancy and childhood, some observations and suggestions concerning—E. W. Saunders, St. Louis, 65.
- Thrombosis, a case of gravidic cardiac—A. Derivaux, St. Louis, 8.
- X-ray, treatment of non-malignant diseases of the skin by the—Joseph Grindon, St. Louis, 321.

Special Articles.

- Bovine tuberculosis a factor in the causation of human tuberculosis—Mazyck P. Ravenel, Philadelphia, 200.
- Digestive organs, the use of currents of high frequency in diseases of the—G. Herschell, London, England, 270.

Editorials.

- General Summary of Medical Progress, 1903.
- Alcohol, 27.
- Alexins, the, 19.
- Antiseptic for the hands, 26.
- Blood pressure, 27.
- Cancer, 27.
- Contagious energy, 22.
- Diseases, the new, 17.
- Dysentery, 20.

Ehrlich's theory, 20.
 Facts and theories, 17.
 Gastro-intestinal diseases, 28.
 Genito-urinary surgery, 30.
 Heart, the, 27.
 Immunization, practical, 25.
 Koch's theory, 21.
 Mental therapeutics, 31.
 Neurology, 29.
 Old age, 24.
 Original research, the waste of 18.
 Plague, the, 26.
 Precipitin test, blood differentiation by the, 25.
 Researches and immunity, 18.
 Scorbutus, 26.
 Smallpox, 22.
 Surgery, 31.
 Syphilis, 25.
 Theories, 19.
 Theories abundant, 17.
 Tuberculosis, 21.
 Tuberculosis, how does, enter the body? 24.
 Tuberculosis, predisposition to, 23.
 Tuberculosis, the fight against, 23.
 Vibration, mechanical, 28.

Leading Articles.

Cancer laboratory of the New York board of health, fourth annual report of, 210.
 Cancer, the biology of, 274.
 Carcinoma of the uterus, lymphatics in, 83.
 Cerebellar syndrome, the, 340.
 Diabetes, diagnosis of, 217.
 Diabetes mellitus, 212.
 Diarrhea in infants, the etiology of summer, 339.
 Diarrhea, treatment of summer, 338.
 Formaldehyd, is the use of, as a milk preservative harmful? 149.
 Gastric function, sodium chlorid and the, 278.
 Infant milk and infant mortality, 152.

Infections, silver in the treatment of general, 279.
 Medicine-dropper, 86.
 Psoriasis, treatment of, 88.
 Psychosis, the influence of the public school in its relation to, 154.
 Syphilis, problems concerning congenital, 89.
 Ulcer, gastric, 86.

Editorial Comment.

Appendicitis, is, on the increase? 219.
 Behring's dicta, attack on, 283.
 Cancer, Schmidt's cure for, 157.
 Chorea, 91.
 Cornet's vigorous reply, 284.
 Diagnostic purposes the manufacture of immune sera to be used for, 220.
 Diet, bread and fruit, 94.
 Diphtheria, the death-rate of, 92.
 Food preservatives and health, 156.
 Glycolytic ferments in the tissues, 90.
 Hospital for Washington University, 345.
 Infants, the mortality of, 155.
 Medical inspection of schools, 157.
 Medical society, Missouri state, 342.
 Medicine, the master-word in, 220.
 Migraine, the size of the stomach and, 95.
 Milk, Behring on the preservation of, 155.
 Name, the therapeutic potency of a, 282.
 Nephritis, raw kidneys to eat in acute, 93.
 Pistol, the deadly toy, 343.
 Pneumonia, 92.
 Pneumonia epidemic, 218.
 Proprietary drugs, advertising to the laity, 282.
 Proprietary medicine manufacturer and medical journalism, 281.
 Proprietary medicines, the place of, in medical journals, 281.
 Rabbit lope, the, 158.
 Research, funds for, 91.

Rheumatism, acute tuberculous, 93.
 Rigor mortis, 91.
 Scarlet fever, 93.
 Science, American association for the advancement of, 94.
 Smallpox on the increase, 156.
 Still's disease, the nature of, 219.
 Synthetic drugs, 283.
 Tapeworm, the dwarf, 95.
 Tetanus and vaccin, 92.
 Tuberculosis congresses and exhibitions, two, 158.
 Tuberculosis exposition number, the, 218.
 Typhoidal perforation, 344.

Medical Research.

Adrenals, the, 97.
 Brain, the, 37.
 Circulation, the, 35.
 Diet, effect of meat, on chickens, 160.
 Fecundity, the ovary and, 32.
 Fibrin precipitation, 160.
 Gastroenteric tract, the, 97.
 Inheritance, 285.
 Pancreas, the, 95.
 Radium, efficacy of, 161.
 Rays, the Blondlot, 159.
 Rays, the N-, 286.
 Reflexes, subcortical expressive, 285.
 Tissue cells, reproduction of, outside of the body, 160.
 Tissues, the nervous, 34.
 Thyroid gland, the, 96.

Diagnostics.

Abdominal pain, 289.
 Aneurism, a sign of, 289.
 Appendicitis, early symptoms of severe, 348.
 Appendicitis, pain in, 165.
 Ascariides, fever and convulsions due to, 224.
 Cerebro-spinal meningitis, clinical study of 163.

Cystitis, the value of albuminuria in differentiating pyelitis from, 102.
 Diagnosis, review of symptomatology and, 38.
 Diphtheria, premonitory symptoms of cardiac weakness in, 103.
 Erythromelalgia and Raynaud's disease, 164.
 Gallstones, method of examining the stools for, 287.
 Gastroenteritis in children, meningeal symptoms occurring during the course of, 103.
 Hysteria, diagnosis of, 225.
 Myocardial degeneration, the diagnosis of, 100.
 Myelopathic albumosuria, 288.
 Neuroses, some reflex, of dental origin, 162.
 Paralysis, facial, 162.
 Percussion, diagnostic value of palpation, 100.
 Peristaltic movements of the intestines, value of the, 166.
 Pyelitis and pyelonephritis, 163.
 Rachitis, a new symptom of, 287.
 Reflexes and tendon phenomena, the diagnostic significance of certain, 346.
 Renal diseases, eye changes in, 103.
 Rothline, 162.
 Sclerosis, the differential diagnosis between Friedrich's disease and insular, 101.
 Spleen, diagnostic significance of enlarged, 221.
 Tuberculosis, laryngeal crepitation as a sign of pulmonary, 162.
 Tuberculosis, renal, 223.
 Typhoid diagnosticum, a new, 349.
 Urine, a new test for bile in the, 104.
 Urine, black, 347.
 Urine, determining the specific gravity of small volumes of, 102.
 Whooping cough, 221.

Therapeutics.

- Amygdalitis, acute, 169.
 Antituberculous serum, Marmorek's, 292.
 Appendicitis, early treatment of acute, 352.
 Chorea, ergot in the treatment of, 171.
 Chorea, sodium salicylate in, 167.
 Drug addiction, restriction method of cure in, 225.
 Epidural injections, 226.
 Epilepsy and the bromids, 108.
 Feeding, forced, 291.
 Icterus, treatment of simple, 169.
 Iodids, a substitute for the, 168.
 Kidney diseases, alcohol and diet in, 105.
 Olive oil, 170.
 Parasites, treatment of intestinal, 351.
 Renal decapsulation, the medical aspect of, 293.
 Serum therapy, 44.
 Sialagogues in dyspepsia, 105.
 Therapeutic progress in 1903.
 Bromocol, 43.
 Digitalone, 43.
 Libanol, 43.
 Narkotile, 43.
 Pyranum, 43.
 Salocreol, 43.
 Styptol, 44.
 Valerobromine, 44.
 Veronal, 44.
 Typhoid fever, serum therapy of, 349.

Society Proceedings.

OBSTETRICAL AND GYNECOLOGICAL SOCIETY.

- Ovarian cyst, 172.
 Placenta previa, 48.
 MEDICAL SOCIETY OF CITY HOSPITAL ALUMNI.
 Artery, ligation of the common carotid, 300.
 Cardiac lesions, 358.
 Epilepsy, recent therapy in, 301.
 Hematocele, retroperitoneal, 228.
 Hernia, strangulated, 295.
 Leukemia, splenomedullary, 296.
 Osteomyelitis of the femur, 300.

Viscera, topographical anatomy of the thoracic and abdominal, 359.

X-ray, treatment of non-malignant diseases of the skin by the, 353.

Correspondence.

Formaldehyd in milk.

Reports on Progress.

- Abdominal operations, peritoneal saline infusions in, 252.
 Abortion, habitual, 310.
 Abdominal wall, the aponeurosis the supporting structures of the, 248.
 Adiposis dolorosa in a boy, 112.
 Aneurism of the external iliac artery, 182.
 Aneurism, x-ray in, 377.
 Arteriosclerosis, 313.
 Ascitis, excessive, from thrombosis of the portal vein, 113.
 Bile duct, obstruction of the common, 374.
 Bladder, perforation of the, by an appendiceal abscess, 250.
 Bright's disease, 55.
 Bright's disease, pathology and surgical treatment of, 182.
 Bronchoscopy, 249.
 Bursæ of the neck, study of normal and pathological conditions, 374.
 Cancer of the stomach, 241.
 Carcinoma of the breast, operative possibilities in advanced cases of, 121.
 Centenarianism, studies in, 184.
 Cerebro spinal meningitis, 175.
 Cholera and flies, 185.
 Cirrhosis of the liver as seen in children, 379.
 Cirrhosis of the stomach, 309.
 Colitis, acute septic, 371.
 Constipation, high frequency currents in, 379.
 Cryoscopy, 58.
 Dechloridation, 55.
 Dysmenorrhea, treatment of, 115.
 Edebohl's operation, 58.
 Exophthalmic goiter, 62.

- Filaria perstans*, 369.
 Fever, typhoid, 111.
 Fibroids, treatment of, by electricity, 311.
 Fluorescence, artificial, of living tissues, 379.
 Fractured bones, method of retaining ends of, in apposition during fixation by plaster-of-Paris dressing, 120.
 Fractures, 63.
 Gastric disease in the adult, congenital narrowness of the pyloric orifice a cause of, 372.
 Gastric juice, hypersecretion of, 112.
 Gastroptosis, 241.
 Gonococcal peritonitis, general, in young girls under puberty, 380.
 Head, surgery of the, 61.
 Health, injury to, while in school, 185.
 Heart, exercise as a mode of treating diseases of the, 114.
 Hernia, 63.
 Hip disease, Rubio's gluteal sign of, 242.
 Koch's assertion, 51.
 Leukemia, the treatment of splenomedullary, 53.
 Liver and biliary passages, surgery of the, 62.
 Lobar pneumonia, acute, 308.
 Malignant growths, treatment of, 63.
 Necrosis of the entire lower jaw, 183.
 Nephritis, organ treatment of, 243.
 Nephritis, the hygiene and dietetic treatment of chronic, 366.
 Neuroses of the stomach and intestines, 370.
 Pancreas, 57.
 Pelvic organs, surgery of the, 62.
 Perineal section, new method of performing, without a guide, 120.
 Peritonitis complicating influenza, 54.
 Pneumonia, adrenalin in treatment of the cardiac toxemia of, 176.
 Pneumonia epidemic, 113.
 Pneumothorax, 370.
 Polycythemia, 53.
 Pregnancy, plural, in one tube; the two ova of different size, 311.
 Prosthetic surgery, 61.
 Purinemia, 371.
 Pus, acute and chronic, in man, the structures and the granulations of the cells of, 246.
 Radium, 56.
 Radium, 376.
 Radium from pitchblend, 378.
 Senile enlargement, suprapubic removal of the prostatic urethra for, 181.
 Serum treatment, 59.
 Sound, splashing, 243.
 Splenic anemia, 242.
 Sutures, 63.
 Syphilis, hereditary, 178.
 Tabes, 115.
 Tetanus, 367.
 Thorax, surgery of the, 61.
 Thyrotoxic serum, experimental study of, 247.
 Tubercular lung, should a, be exercised, 368.
 Tuberculin test, 52.
 Tuberculosis, a contribution to the casuistry of placental and congenital, 241.
 Tuberculosis, treatment of pulmonary, by formaldehyd, 111.
 Tuberculosis and typhoid fever, 175.
 Typhoid, dissemination of, in butter, 184.
 Typhoid fever, 56.
 Uncinariasis, 54.
 Uncinariasis, report of a case of, 176.
 Uterus, operation for puerperal inversion of the, 180.
 Vaccination and infant mortality, 381.
 Vaginal injections in obstetrics and gynecology and as a hygienic procedure, 178.
 Vaginal vs. abdominal operations in gynecologic diseases, 118.
 Viscera, spontaneous gangrene of the hollow, 372.
 Vulvovaginitis in children, 179.
 X-ray, bad effects of the, 377.
 Yellow fever, 177.

Biographical Sketches.

- Beaumont, Dr. William, 124.
 Lane, Dr. William Carr, 123.
 Linton, Dr. M. L., 312.
 Litton, Dr. Abram, 312.
 McDowell, Dr. Joseph Nash, 189.
 Pallen, Dr. Moses M., 383.
 Pope, Dr. Charles Alexander, 251.
 Stevens, Dr. Charles W., 251.
 Watters, Dr. John Henry, 382.

Obituary.

- Runge, Dr. Edward C., 186.

Book Reviews.

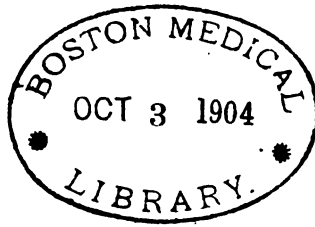
- American climatological association, transactions of the, 317.
 Baby, the practical care of the, 314.
 Biographic clinics, 253.
 Blues, the, (splanchnic neurasthenia), 315.
 Consumption a curable and preventable disease, 127.
 Consumption, self-cure of, 190.
 Eye, refraction and motility of the, 127.
 How to attract and hold an audience, 191.
 Hygiene and sanitation, a manual of, 315.
 Infant feeding, 316.
 Infectious diseases, Rogers on, 126.
 Lea's series of medical epitomes:—
 Anatomy, Hale's epitome of, 125.
 Chemistry and physics, an epitome of inorganic, 126.
 Chemistry, organic and physiologic, 315.
 Histology, Wathen's epitome of, 125.
 Man who pleases and the woman who charms, 254.
 Medical annual, the international, 318.
 Metabolism and nutrition, clinical treatises on the pathology and therapy of disorders of, 255.
 Microscopy and chemistry, manual of clinical, 316.
 Morphism, the Mattison method in, 253.
 Neurological practice of medicine, 128.
 New Jersey medical society, transactions of the, 318.

- New Zealand, the story of, 318.
 Obstetrics, King's, 384.
 Orthopedic surgery, Whitman's, 314.
 Parliamentary usage, Horne's handbook on, 254.
 Pathology, a compend of, 190.
 Practical medicine series of year books, 317.
 Prostate and adnexa, non-surgical treatise on diseases of the, 254.
 Prostatic hypertrophy from every surgical standpoint, 253.
 Skin, diseases of the, 126.
 Stories of a country doctor, 319.
 Surgery, von Bergmann's, 315.
 Texas medical association, transactions of the, 128.
 Therapeutics, a system of physiologic, 317.
 United States pension examining surgeons, transactions of the national association of, 316.
 Visiting list, 192.
 Worth of words, 253.

Notes and Items.

- Adiposis dolorosa, 199.
 Dupuytren's contraction, 192.
 Enteroptosis, 192.
 Freckles and liver spots, 192.
 Hemorrhoids, removal of external, 174.
 Henoch's purpura, 110.
 Intussusception, 16.
 Medical association meetings at St. Louis during the world's fair, 320.
 Pathological exhibit at the St. Louis world's fair, 256.
 Postoperative femoral thrombophlebitis, 192.
 Renal activity, functional, 337.
 Runge memorial meeting, 320.
 Sye, treatment of, 148.
 Tabes in young children, 192.
 Tuberculosis, susceptibility of the negro to, 50.
 Variola, treatment of, by antistreptococic serum, 365.

8273



ST. LOUIS

COURIER OF MEDICINE.

VOL. XXX.

JANUARY, 1904.

No. 1.

ORIGINAL CONTRIBUTIONS.

The Regions of the Abdomen from the Surgeon's Standpoint.

By ARTHUR E. HERTZLER, A.M., M.D., Ph.D.,

KANSAS CITY, MO.

EVER since my student days it has seemed to me that the division of the abdomen into regions was of little or no practical importance. The regions so divided off seemed to contain no particular organ or region of clinical importance. These regions devised by the anatomists are frequently ignored by clinical teachers in that they refer to the region under consideration by the organ located there. I have felt the inconvenience of the accepted system for a number of years while engaged in the clinical study of the diseases of the abdomen from the surgeon's standpoint, collateral with a somewhat detailed study of the anatomy of this region from the topographic point of view. These studies have resulted in the adoption of a new plan of division, which, I believe, meets the clinical requirements, inasmuch as each region represents a particular field of the surgeon's activity, and in that they are easier to remember, since each region takes the name of the organ it contains.

It will be profitable to first recall to mind the older plans of division. Three of these will suffice to recall the general arrangement of them all. The best known of these is the one adopted by most English anatomists and is familiar to

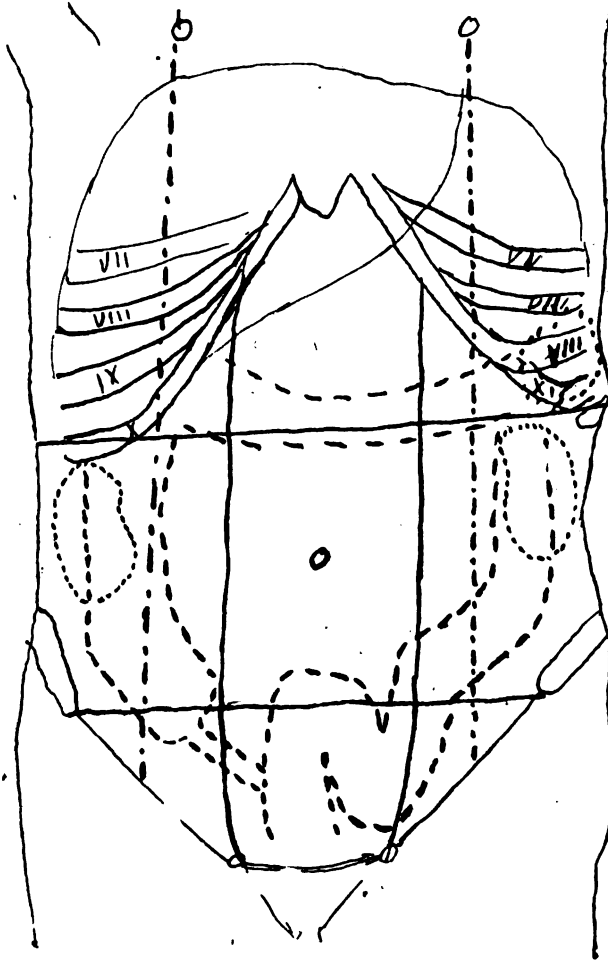


FIG. 1.—Outline of abdomen (from Toldt's Atlas) showing regions of the abdomen. Perpendicular dotted lines show the usual English division; heavy black lines show Anderson's scheme.

most American practitioners. Anderson's differs from this only in that he takes the outer border of the rectus, instead of a plain parallel to the mid-axis of the body erected at the middle point of Pupart's ligament. The two transverse planes are the same, they being between the tenth ribs above and be-

tween the anterior superior spines of the ileum below. Anderson's has the advantage in that it gives more room in the lumbar regions. They both are at fault in that the regions which are most often the field of attack by the surgeon are cut in two. This is notably true of the gall-bladder region and the region of the appendix. A reference to Fig. 1 will make this clear.

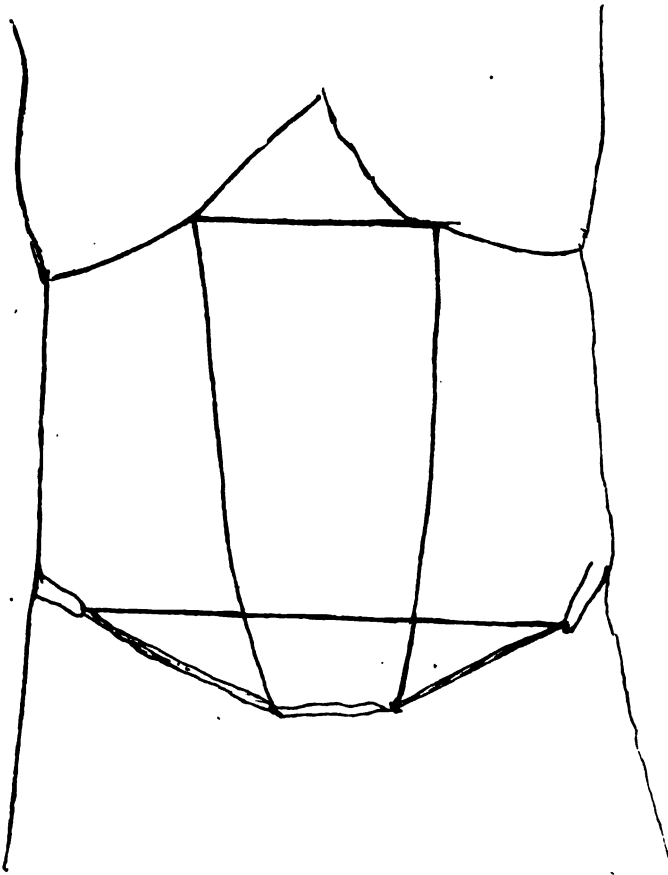


FIG. 2.—B.N.A. division of the abdomen with regions.
(From Toldt's Atlas.)

The same objections hold with the B. N. A., as may be readily seen by reference to Fig. 2.

The division I proposed differs from the old ones primarily

by substituting the triangle for the quadrangle. The umbilicus is taken as the center and from it lines are drawn in a radiating manner so as to separate the various organs, or at least those parts of them which are the object of most frequent clinical consideration, from each other.

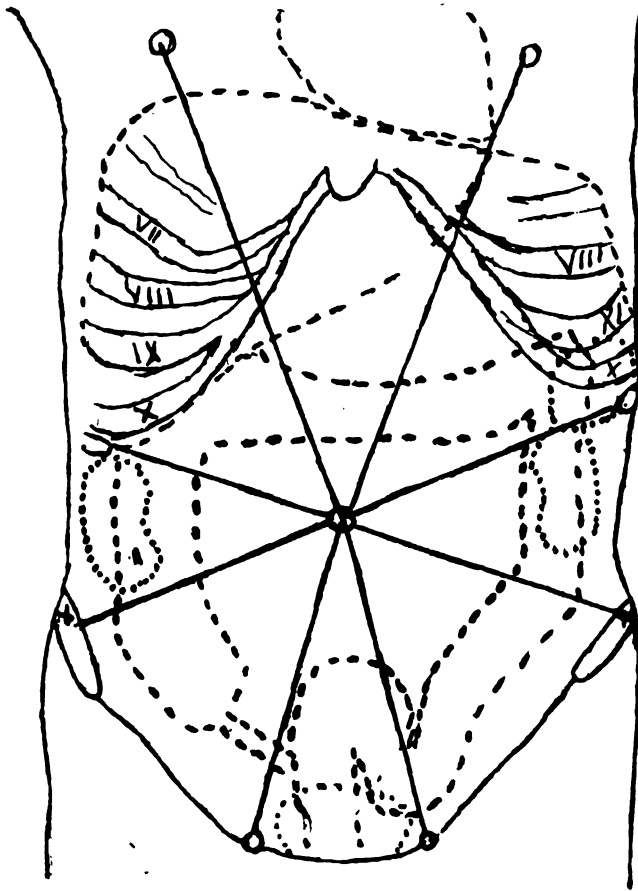


FIG. 3.—General outline from Toldt. Triangles drawn in dividing the abdomen into eight regions. Dotted lines show the position of the various organs in the triangles.

Beginning with the line joining the umbilicus to the left nipple it will be observed that it passes along the left edge of the liver as it passes over the costochondral junction of the seventh rib and touches the tip of the apex of the heart.

See Fig. 3. Since the nipple is a variable point it is best to take the 11th rib as the landmark and then extending it upward, though in the male the nipple is accurate enough for all practical purposes.

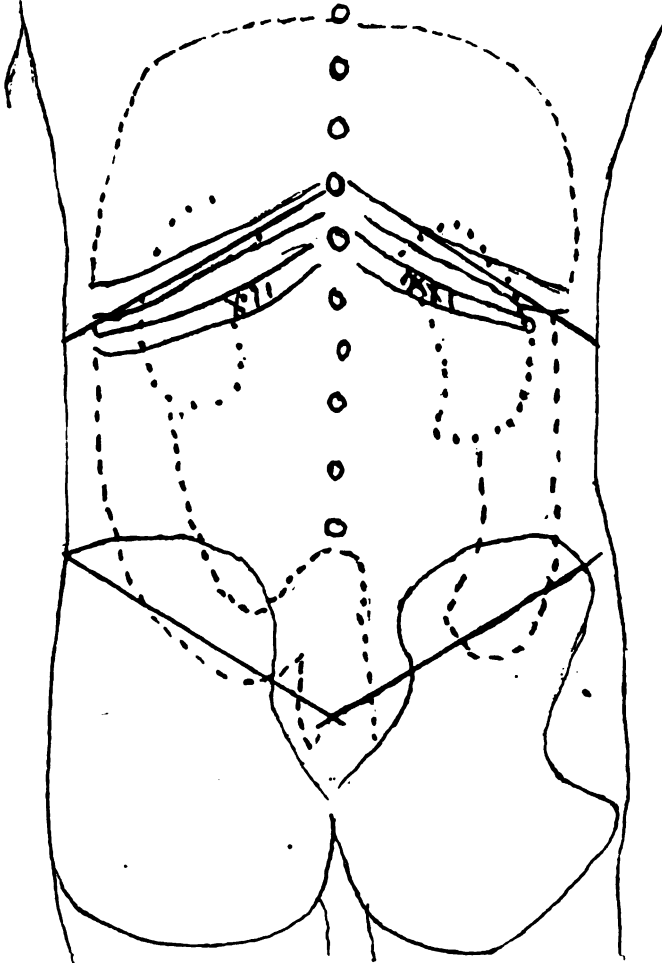


FIG. 4.—Back view (outline from Toldt) showing extension of line drawn from the umbilicus to tips of 11th ribs. Kidneys as shown are one interspace higher than their usual position.

The analogous line on the right side passes over the pyloric end of the stomach, or more exactly over the right border of it and passes to the inner side of the gall-bladder. This triangle takes in therefore the clinically important region of the stomach. It is in this region that most of the tumors

going out from this organ are discovered, and it is here too that pain due to diseases of this organ are localized. It is therefore proper to refer to it as the "gastric region."

The next line may be drawn from the umbilicus to the tip of the eleventh rib and extended backwards. This line passes between the gall-bladder and the right kidney. Its extension backwards follows more or less parallel with the eleventh rib. This region takes in the gall-bladder, which is pre-eminently the most important region in diseases of the liver—certainly so to the surgeon—and may therefore be referred to as the hepatic region.

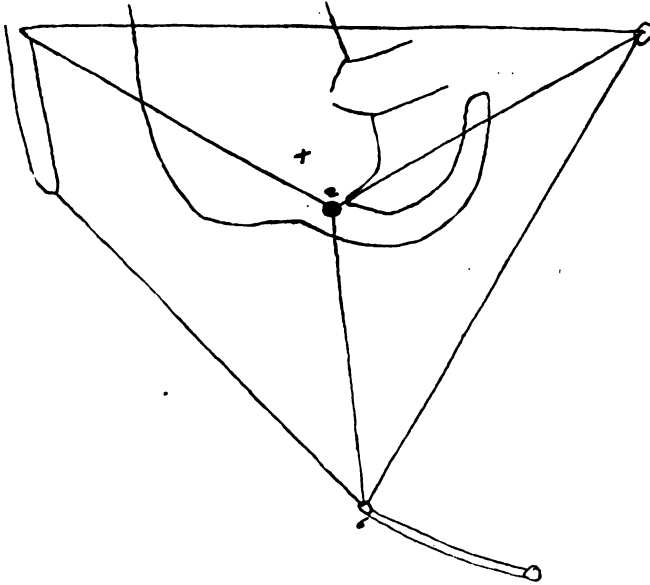


FIG. 5.—Ileocecal triangle subdivided into three supplementary triangles. Their point of junction represents the root of the appendix. X represents McBurney's point. The line *a b* prolonged will strike the tip of the 11th rib.

The next line may be drawn from the umbilicus to the tubercle on the crest of the ileum. This passes below the right kidney and 5 cm. above the ileocecal junction. I select the tubercle instead of the anterior superior spine in order that the line may pass above the root of the appendix in a high position of the cecum. Since this region contains

nothing of clinical importance but the right kidney, the designation of right renal region is certainly appropriate.

The next line is drawn from the umbilicus to the tuberculum pubicum. This tubercle is generally 3 or 4 cm. from the median line. This triangle takes in all of the iliocecal junction and the appendix, and in consequence may be called the iliocecal or right ilio-inguinal region.

The next line takes a similar point on the left side of the pubes. The outline represents an isosceles triangle and contains the bladder and uterus, and may therefore be called the vesical region.

The next line takes the same points as the corresponding line on the right side and may be called the sigmoidal region, for the sigmoid colon is all it contains clinically. It may also be called the left ilio-inguinal region.

The next triangle encloses the left kidney and is therefore the left renal region. It is particularly to be noted that by drawing the upper line of this region to the tip of the eleventh rib, and then extending it along to the upper pole of the kidney, is separated from the spleen, passing as it does along the lower border of this organ. See Fig. 3.

The remaining triangle contains the spleen, and it is in this region where the organ is always searched for in palpation. This triangle contains, it is true, the fundus of the stomach, but the spleen is the chief organ searched for in this region in a clinical examination. The name of the region is therefore obvious—the splenic.

Of course when any organ is greatly enlarged it passes beyond the borders of its triangle. These deviations are so variable, however, that they can not be taken into account in any scheme of division.

The obvious advantage of this scheme consists in the fact that each triangle contains a distinct field of surgical activity. Thus when the hepatic region is mentioned the various procedures directed against the gall-bladder are at once called to mind. The same is true of the renal regions. It is even more so when the iliocecal region is considered.

It is of interest to note that in the very center of this isosceles triangle (using Poupart's ligament as a base) corresponds to the area of tenderness in appendicitis. So far as my observation goes it corresponds to the seat of pain quite as often as McBurney's point, and it certainly corresponds

more closely to the anatomic seat of the base of the appendix.¹ If the center of this triangle is joined to the three points forming the angles of this triangle, three isosceles triangles will be formed, with a common apex, which corresponds to the most frequent seat of the appendix. See Fig. 3. It is a little below and internal to McBurney's point.

A Case of Gravidic Cardiac Thrombosis.

By A. DERIVAUX, M.D.,

ST. LOUIS, MO.

THE patient, Mrs. E., a robust woman nearly 40 years of age, has had four children; the eldest is 19 years of age. Aside from a premature labor three years ago, brought about by a fall, her pregnancies have been uneventful and her labors natural.

Late in January I was called to see her for a mild laryngo-bronchitis, uncomplicated by the then prevailing grip, but which made her uneasy lest the cough would bring disaster to a pregnancy then advanced about three months.

Five days later, on the 1st of February, I was called in for a painful swelling on the inner side of her left leg, below the knee; this, the patient explained, had for two weeks grown in extent and daily became more painful until she could not endure to be on her feet. Examination disclosed a phlebitis of the internal saphenous vein and collaterals, forming on the upper third of the leg an elliptic swelling about 6 inches long, nodular and purplish.

The bronchial trouble had subsided; the temperature being normal, I had probably to deal with a trivial phlebitis of a varicose network so common in multiparas, and particularly among those, who like Mrs. E., have to be on their feet a good deal of the time; accordingly I prescribed rest in bed, a saline cathartic, and mercurial ointment spread on flannel and applied to the phlebotic surface, warning against any rubbing.

This was about 9 o'clock in the morning; late that same day, returning home about 6 p.m., I found a pressing message

¹As recorded in my notes in the examination of nearly a thousand abdomens.

to go to the patient. I found her in a most alarming condition; an hour before she had suddenly felt a tumultuous action of her heart, together with extreme difficulty in breathing; had attempted to sit up in bed in order to get better breath, but had fallen powerless backwards; her husband and daughter stated that she became unconscious at that moment and that her struggles to breathe were frightful; the face became purple, the eyes bulged; foam began to accumulate in her mouth, flowing out at the corners. This condition lasted about twenty minutes, when it moderated somewhat, the respiration becoming less noisy but very rapid.

As I arrived those features were still present, but she had regained consciousness, and would give a whispered monosyllabic answer; her expression betrayed terror, her face was still purple, the whole body bathed in perspiration, her pulse was weak and depressible, about 130, respiration 48.

A hasty auscultation of the heart left no doubt of cardiac thrombosis, induced by an embolus from the inflamed vein; that the pregnant condition of the patient was responsible for the state of inopexia or increased coagulability of her blood was equally clear; how to overcome the condition without delay was the problem. I at once injected a $\frac{1}{100}$ gr. of nitrate of strychnia and $\frac{1}{100}$ of nitroglycerin, and sent for aromatic spirits of ammonia, of which I gave 20 drops every 15 minutes; the phlebitis had not extended, there had been no chill and the patient's temperature was normal, so there was hope that the embolus was not septic.

I will now describe the condition of the heart; the normal bruits were gone, replaced by a single loud purr, which covered the systole and a large part of the diastole; the apex beat could not to be made out, rather in its place was a rising of the whole organ *en masse*; there was no arhythmia.

Percussion of the heart was not satisfactory towards the left; to the right it disclosed dullness a full inch beyond the right sternal border. In all probability an embolus had penetrated the right auricle and lodging in the tricuspid orifice had set up a coagulum in the right ventricle.

Fragmentation of this would produce secondary emboli in the territory of the pulmonary artery, or multiple infarcts in the lungs, in which event bloody expectoration would be the visible manifestation. However, should this not happen, the pressure of this clot in the right heart must diminish the blood

supply beyond and have the same result as a large hemorrhage, a dangerous fall of the blood pressure in the arterial system.

Meanwhile the patient had improved, the pulse was better—120 instead of 130, and above all the suffocation was much reduced, so instead of yielding to the temptation of making a saline injection, I repeated the hypodermic of strychnin and nitro-glycerin an hour after the first, and left her, ordering the continuance of the ammonia drops every half hour throughout the night.

Early next day I found her so much better that I thought the danger was over. The temperature was still normal, the pulse 106, no pulmonary symptoms had appeared, auscultation detected no foci of splenisation, but in the heart the uncanny sound of the night before was unchanged, likewise the bounding against the chest wall.

The patient was still frightened and nervous and needed sleep; I ordered 60 grains of bromid of sodium and 1 grain of morphin divided in six powders, to be given hourly until sleep should be induced, the spirits of ammonia to be continued at the same interval as the powders; liquid diet *ad libitum*. The day passed off without unfavorable incident, she slept off-and-on quietly, her respiration was almost noiseless, but the heart's action was labored and the jugular veins stood out as during an effort, but without the phenomenon of venous pulse; no change in the phlebitis.

Contrary to my expectations, during the following night two more attacks, similar if not worse than the first, took place about three hours apart; each time she became unconscious for nearly an hour, the struggle for breath, the swollen and congested face and neck, foamy expectoration, everything was as the night before, but I was not sent for, and at my visit in the morning of the third day, I found her in a state bordering on exhaustion, pulse 128, respirations 44, temperature still normal; on auscultating I found that the single loud purr of the preceding two days was now replaced by a double souffle with maximum of intensity at the base.

The patient complained of a numbness of the right arm, motility however not affected; remembering that I had made a hypodermic injection in the right arm, I was inclined to ascribe the numbness to that rather than to cerebral embolism.

In view of this alarming repetition of migrating fragments

from the phlebitis, I requested a consultation, and our gifted fellow, Dr. Lutz, who was acquainted with the family, was summoned; meanwhile I ordered infusion of digitalis and continuance of the ammonia.

Dr. Lutz met me at the bedside of the patient a few hours later and I had the gratification of seeing him share my view of the case and look upon the administration of high doses of ammonia as the main indication. The phlebitic swelling seemed slightly reduced in size, still quite painful by manipulation; at the suggestion of Dr. Lutz the mercurial salve was discarded and replaced by a carbolic acid poultice; on the heart an ice bag was ordered to diminish its erethism and possibly forestall endocardial complications.

The following night was free from embolic migrations and the following morning I found the pulse stronger, reduced to 110, and in the evening to 92; oppression and palpitations diminished. Infusion of digitalis, ammonia, ice bag on heart and carbolic poultice continued for the next twenty-four hours.

On the 5th day the pulse was down to 70, respiration 22; at the heart both souffles had become softer and percussion showed that the right cavities had resumed their normal limits; the apex beat was found in the 6th intercostal space. The patient talked freely, complaining of restlessness and want of sleep, also of some headache, but without special localization. The ice bag proving disagreeable was now removed and the digitalis stopped; a mixture of strychnin, morphin and ammonia prescribed; painful erythema of the phlebitic area having supervened the carbolic poultice was discarded and anodyn ointment prescribed.

Improvement kept on apace from that day without further interruption; the souffles were heard for two days more; indications of venous stasis in the superior vena cava had already vanished on the 5th day, probably the best sign that the antochthonous heart clot in the right auricle had been dissolved in the blood, since it had done no damage in the lungs.

The phlebitic tumor was now reduced to a central induration of the size of a pea, which was still present a few weeks ago.

At the end of the second week the patient being practically well was allowed to sit up, and gradually resumed her active life. Elastic stockings were ordered to ease the venous

circulation; she has now passed the eighth month of her pregnancy without further trouble.

Such is the history of the uncommon case. Besides the advisability of placing it on record, the opportunity presents itself for a discussion by this Society of the treatment to oppose to such a condition. I am far from being confident that the one I have adopted is the best; it has at least the merit of not being immediately dangerous in itself and of being easily watched as to its effects. The same can not be said of the other measure that suggested itself to me before that patient in imminence of suffocation—venesection, followed by saline subcutaneous injection, or the latter alone.

Who can tell what is going to happen, if the blood supply to the left cavities of the heart is already so far reduced as to result in cerebral ischemia deep enough to induce a loss of consciousness of a whole hour at the onset of cardiac thrombosis; might not further spoliation by venesection so far deplete the cerebral blood supply as to paralyze the bulbar centers before the saline injection could have time to restore the arterial tension?

Should the saline subcutaneous transfusion be attempted without previous venesection? Bear in mind the enormous stasis in the venous circulation, with the access to the right auricle almost blocked by the coagulum, would the saline solution be taken up by the sluggish blood current?

Again, do we know for a certainty what effect has on blood coagulability *in vivo* the so-called normal solution of 7 to 1000? On this point I must confess my total ignorance; literature at my disposition has not supplied the deficiency, and I look forward with interest to a discussion by the fellows of the Society for light on the subject.

[NOTE.—This was the last work of Dr. Derivaux, a paper which was to be read before the St. Louis Obstetrical and Gynecological Society.]

The Finsen Light Cure.

By H. JOHN STEWART, M.D.,

CHICAGO.

HAVING heard and read so much about the Finsen light treatment in the cure of disease, I decided in April of this year to make a personal investigation to see and learn for myself if it was true that such diseases as lupus and rodent ulcer could be cured by light. I visited several institutions where the Finsen light was in operation. In Manchester, England, at the Salford Skin Hospital, they had a Finsen light department under the supervision of Prof. Brooke, who informed me they were unable to treat half the sufferers who applied for treatment, and they had solicited by public subscription \$125,000 for the erection of a new hospital for skin diseases, where they would be able to enlarge the "light department" so at least 200 people could be treated daily, as there were people on their waiting list whom they would be unable to treat, with their present facilities, for an indefinite time. Prof. Brooke was most enthusiastic over the wonderful results they were obtaining there.

I next visited the London General Hospital of London, England, and found they were just completing an immense light department, that had been established by the present Queen of England, then Princess of Wales, in 1900, who presented the first lamp at that time, and as it was found to be far too inadequate, she had just given a second lamp, and Alfred Harmsworth had also given \$50,000 for the perpetual endowment of another Finsen lamp in this department, and they were then building a platform, to receive the King and Queen whom they expected to come June 11th to dedicate this new department, and even with these increased facilities, I was informed by Prof. Squirey there were patients on the waiting list who were unable to receive treatments.

I next visited the parent light institute at Copenhagen and found that all the statements that had been made regarding the Finsen light were not in the least exaggerated. I had the pleasure of meeting and studying under Prof. Finsen himself and was extended every courtesy by Prof. Finsen and his

assistants at this institution. He seemed very much pleased to describe in the minutest detail the apparatus, treatment, etc., and gave me a detailed history of the Finsen light.

The Finsen light is a large specially constructed arc lamp of 20,000-candle power, or twenty times stronger than an ordinary street lamp, and uses from sixty to eighty amperes of current. This lamp burns a specially made carbon, which can only be procured at Copenhagen. In the upper holder is a large carbon, while a smaller one is used in the bottom holder; when properly adjusted for arcing a maximum number of violet rays and ultra violet rays are produced. The advantage of the Finsen lamp over others is in the greater number of violet rays produced. The Finsen lamp produces a much greater number of chemical rays than sunlight, as the atmosphere absorbs a large percentage of these rays. The light is so intense it is impossible to look at it with the naked eye, and it is necessary for all the attendants and patients to wear dense smoked glasses while the lamp is in operation; an aluminum hood about two feet wide surrounds the lamp, which hood is fringed on its lower border with a deep crimson colored paper skirt to further aid in excluding the diffused light from the patients.

The concentrated rays are carried from the arc to the patients through four telescopic tubes, known as converging tubes, suspended at an angle of forty-five degree, the tubes containing a series of rock crystal lenses so arranged that reservoirs for running water exists between them. By means of the water screen and rock crystal lenses all rays but the violet are eliminated, and these rays are converged and concentrated, thus vastly increasing the healing and bactericidal effects.

The heat from the original arc is so intense that to prevent cracking of the lenses and discomfort to the patients, a stream of cold water is kept constantly circulating through the reservoirs or water screens.

To further concentrate and cool the rays a compressor is provided, which consists of two rock crystal lenses so arranged that a chamber for running water exists between them. This part of the apparatus is used to compress the affected area and make it bloodless during the treatment, thus facilitating deeper penetration. The Finsen arc light has been used with marked success in curing many skin diseases, thought until this time

incurable, especially lupus and rodent ulcer. During a period of six years the Finsen Medical Light Institute at Copenhagen has grown from a very small shed, where they were only able to treat one patient at a time, to a magnificent institution where they are now treating three hundred people daily, and light institutes have been established in London, England; St. Petersburg, Russia; Paris, France, and Chicago, Illinois, where they are all carrying on a similar work to the parent institution.

It has been a popular belief that lupus was a very rare disease and common only in the northern countries, and although it was supposed there was no lupus in London, yet the hospitals are now treating 175 daily, and the management was compelled to install two more lamps and build a separate department, so great has been the demand from people seeking relief. Lupus was considered very rare in the United States, but since the establishment of the Finsen Light Institute in Chicago the author is informed they have been taxed to their utmost capacity, and they, too, have found it necessary to increase their facilities, as there are now patients on the waiting list who are not able to receive treatment. It seems but a question of a short time until light institutes will be established in every large city in America, because it has proven so efficacious in many other skin diseases besides lupus and rodent ulcer, such as acne, alopecia-areata, localized eczema, chronic ulcers and nævus. The treatments are given while the patients recline on couches. By firm pressure with the compressors on the tissue to be treated, the blood is removed and more heat can be borne and deeper penetration produced; this compression has another important advantage in that the bactericidal effect is greater, because it has been shown that the corpuscles absorb a considerable portion of the rays and thus prevent deep penetration.

The affected area is placed about ten inches from the distal end of the converging apparatus and the treatments, or seances as they are called, take about one hour daily in lupus and rodent ulcer, and in other skin diseases from ten to twenty minutes, depending upon each individual case.

The results attained have been hardly less than marvelous since from carefully compiled statistics covering a series of over 800 cases of lupus treated at the Finsen Institute an overwhelming percentage of cures and an insignificant number of

failures is shown, and Prof. Finsen goes so far as to say that in lupus-vulgaris cures can be obtained in 97 per cent of cases even where the whole face is involved. In these 800 patients, with ages ranging from 5 to 74 years, the average duration of diseases was eleven years. This treatment has an advantage over the x-ray in that there is no danger of burning and consequent sloughing. With the light treatment we are dealing with a known quantity, while with the x-ray we have an unknown quantity of uncertain action.

The light treatment causes no pain; a red erythematous spot and blister appears where the light is applied, and in five or six days the scab falls off and the ulcer is healed beneath, and the skin left free from scar or cicatrix, but red, the redness, however, after a variable period fades and leaves the skin white and uncontracted, except where there has been a loss of tissue from the disease before treatment.

In conclusion, the author would state that the possibilities for the light treatment in the curing of diseases are still unknown, and believes in a limited time it will take an exalted position in the field of medicine and surgery.

Intussusception.

Huber (*Archives Pediatrics*, October 13) shows that a study of a series of cases warrants the conclusion that the younger the child the earlier the symptoms develop. In older children the picture is less pronounced. Invagination in them does not necessarily produce, or give rise to, early obstruction and strangulation, consequently the characteristic signs are more or less modified or even delayed. In chronic cases, acute manifestations are absent. In fact the entire process is characterized, at times, by "extreme latency of symptoms." The presence of a tumor, possibly some slight hemorrhages at intervals, extending over long periods, may be the only evidences. Cases are reported in literature in which a tumor could be mapped out and in which pains recurred in paroxysms at varying intervals for months and months. At no time, however, was there any interference with the action of the bowels, nor was any blood, mucus, or other abnormality, noticed in the movements.

EDITORIAL.

A Critical Summary of Medical Progress, 1903.

Facts and Theories.

In searching the records of the past year, we are at once struck with the enormous accumulation of facts and theories. "In every physical science we must be careful to distinguish between the facts which form its subject matter, and the theories by which we attempt to explain these facts and group them in our scientific systems. The first alone can be regarded as absolute knowledge, and such knowledge is immutable, except in so far as subsequent observation may correct previous error. The last are, at best, only guesses at truth, and, even in their highest development, are subject to limitations and liable to change."—*Cooke*.

Facts Abundant.

Abundant facts have been collected during the past year. Many of these are new, but many more are only corroborative of previously recorded facts. New and peculiar types of clinical cases are found in every medical journal, the variability of which defies any systematization. Hence, we can not regard the report of an interesting case as adding much to our general knowledge; most commonly it has only a passing interest. However, occasionally someone finds more than one case of a peculiar type, presenting a similar syndrome and running a similar course; the recognition of this special type forms a distinct advance, though it may burden our nosology with additional terms.

The New Diseases.

Of special interest is the recognition of a special form of uncinariasis, or hook-worm disease, in America. To Stiles belongs the credit of discovering that a parasite, *uncinaria americana*, is a very common cause of mild and grave anemias in the United States. Several clinicians have corroborated this discovery, and the practi-

tioner must be ready to grasp this new concept, and recognize the disease so that the proper therapy may be instituted.

In the West, the occurrence of a new disease caused by a blood parasite, the tick fever, has become a recognized certainty, and the cure of the disease by hypodermatic injections of quinin is an encouraging sign of the powers of modern research.

Another interesting syndrome which has been dwelt upon this year are the cases of polyerythrocythemia, or Osler's disease; a clinical condition characterized by cyanosis and an enormous increase in the red blood corpuscles. It is a gratifying fact that American physicians have established these diseases.

In fact the medical progress in America has been showing increasing vigor from year to year, and soon we shall outstrip that of other countries even in this subject, as we gradually are forging to the front in other fields.

The Waste of Original Research.

There can be no doubt that much of the investigation in previous years has been wasted. Often a stupendous monument is built after much labor, and someone ruthlessly destroys it at a single blow. Such apparently was the dictum of Koch on tuberculosis. After years of strenuous labor he had established the universality of tuberculosis, and he had the courage to attempt its overthrow on the strength of a few experiments. Fortunately his pupils did not permit it.

Not long ago Bunge attempted to overthrow the structure which had been built during a century of clinical experiments on the therapy of anemia, when he declared that inorganic iron is not utilized. The last year has only strengthened the position that inorganic iron is the best form of ferruginous medication.

Researches on Immunity.

We wonder, therefore, if much of the research work on the phenomena connected with immunity is not wasted. A great aggregation of facts has been collected during the past year, but altogether its import is still obscure. The problem has become so complex that advance seems almost impossible; at any rate some very skillful pruning of the underbrush will be necessary before many steps can be taken in such a scientific wilderness. We have learned that the reactions of agglutination, precipitation and solution are by no means specific, but

differ one from the other in degree only. According to Theobald Smith, close agglutinative affinities may be predicted from close biological or pathogenic relationships.

So each investigation adds new facts, new intricacies are unfolded, and the subject is multiplied a thousand fold by the discovery of allied species of bacteria, different reactions in animals, and atypical results under apparently the same conditions. But collateral work on the source and nature of alexins aids in elucidating the problems.

The Alexins.

Turro defines the alexins—lysins, bacteriolytic substances, cytosis, etc.—as substances which act chemically upon the protoplasm of the bacteria, converting it into a soluble mass. Turro found that the alexins are a product of tissue cells, *e.g.*, the liver, spleen, kidney, thyroidgland, but also the leucocytes are active contributors. The properties of individual alexins depend upon their source, having a positive reaction on certain forms of bacteria, and negative on others. Chemically, they must be regarded as enzymes, which, by a hydrolytic process, disintegrate bacteria. But this latter conclusion is really an hypothesis, and must be carefully separated from the facts of their occurrence in different tissues.

Melkich and Kalyapin find that the quantity of alexins in the serum of healthy individuals is more or less constant, and in disease great variations depending on the pathogenic principle is a striking characteristic. The conspicuous part played by these substances has become extensively confirmed. At the fastigium of a fever the quantity of alexins reaches their maximum; at the beginning of defervescence there is a sudden fall, an indication of the struggle of the infectious process and antagonistic principles. Thus, the cure of disease is intimately connected with the formation of antibodies, and modern research is trying to determine the laws of their formation.

Theories.

As Helmholtz in his popular lectures so forcibly expressed, we need not think that the struggle between theory and experiment is at an end. "As long as there are people of such astounding conceit as to imagine that they can effect, by a few clever strokes, that which man can otherwise only hope to achieve by toilsome labor, hypotheses

will be started which, propounded as dogmas, at once promise to solve all riddles. And as long as there are people who believe implicitly in that which they wish to be true, so long will the hypothesis of the former find credence. Both classes will certainly die out, and to the latter will the majority always belong."

This master wronged us, no doubt, as we are not very prone to accept theories, and we are constantly warned not to let theories blind us to facts. Helmholtz urged that only those can theorize with advantage who have great practice in experiments. But even the theories propounded by the most eminent experimenters we now place only in the category of "working hypotheses." Preconceived theory in this sense does not retard science; on the contrary, stimulates research as nothing else. And we have the interesting spectacle of thousands of students working to develop or establish a theory, and thereby finding new and interesting facts. Such was the case with the mosquito theory of the origin of malaria; and such will be the case with the theory of yellow fever.

Dysentery.

While we expected very much work on the relationship of the dysentery bacillus to dysentery, little that is very definite has been published during the year. Several investigators have found allied bacteria in water and in fecal discharges, and the subject of Shiga bacillary infection is becoming so complicated that all advance is necessarily slow. There seem to be a group of dysentery bacilli, some of which may be pathogenic, others are not, and their differentiation is at times very difficult. Hence, the subject at the close of this year is little advanced over that of last year. As to the bold assertion made last summer that the dysentery bacillus is the principal cause of diarrhea in infants, recent experimenters (Park, etc.) are very dubious as to the reliability of the tests made by Duval and Bassett in establishing the Shiga bacillus. Nothing positive has been heard of the antidysenteric serum in the therapeutic field.

Ehrlich's Theory.

Working under the guidance of this theory much work has been done, but it can not be said that it has become more than a working hypothesis, although its popularity has not been lessened. One of the strongest opponents of the theory is Gruber, who has written several

strong articles against it. In his last communication (*Munch. Med. Woch.*, July 14) he declares that proof is insufficient to permit the adoption of Ehrlich's theory, particularly that part which the latter has called the "poison spectrum." The existence of a toxoid is not proven. The formation of antitoxin does not depend on toxicity or cell-immunity, for many non-poisonous substances lead to the formation of antitoxins. Then, too, certain animals which are not susceptible to certain toxins will yet manufacture antitoxin. The fact that antibodies are not always formed in those parts of the body which are attacked by the toxin also militates against this view. Other arguments given by Gruber are that the presence of a large amount of antitoxin often does not reduce the susceptibility of the animal, and cell-immunity can be acquired without the formation of antitoxin.

Koch's Theory.

The theory of Koch that bovine and human tuberculosis are different infections, and that man is only slightly susceptible to the bovine tubercle bacillus, has received a large amount of attention during the year, and most of the efforts have been directed in the direction of disproving it. The result has been that the theory of the universality of tuberculosis is more popular than ever, although it must be admitted that the opponents of Koch are still very far from entirely upsetting the famous dictum. Here is an interesting example where the putting forth of an hypothesis has stimulated investigation, with the sole object of overthrowing it. Now, since Behring has also sided against Koch, we shall have to adopt a more conciliatory attitude toward the theory of the identity of human and bovine tuberculosis. Persons can become infected by the bovine bacilli; of this proof seems ample, but as to the relative virulence the clinician will not set forth any definite views.

Tuberculosis.

Nothing specially new has been accomplished. The principal efforts, as mentioned above, have been spent on the field of controversy as to the identity of the bovine and human tuberculosis. Men are drifting in all kinds of neglected channels, and theorizing from a few not too-carefully-established facts is a common practice. The dictum of Behring that the chief source of tuberculosis is the milk and the mode of its entrance into the body is almost invariably the gastro-

intestinal canal, will receive little attention. At any rate, no great experimental work will be stimulated by this theory. The profession is tired of having the leaders of experimental evidence throw very broad theories at each other. We will be content to wait. Meanwhile, we shall regard tuberculosis more or less universal, with a varying virulence and malignancy, carried by air, milk and food, and entering the body by the alimentary and respiratory canals. Such a view is at least safe, and does not subject the practical worker to the chagrin of having neglected certain prophylactic precautions.

Small-Pox.

The discovery of a protozoan as the cause of small-pox in the early part of the year has received no special confirmation, although such a distinguished naturalist as Calkins has given his support to the animal nature of certain bodies found in the variolar lesions.

Stokes of Johns Hopkins Hospital made five autopsies, and studied lesions from nine fatal cases, and concluded that the poison enters the circulation through the respiratory tract and has a selective action for epithelium of the mucous membrane and the skin. Most cases are not further affected. Others get secondary infections, usually by the streptococcus pyogenes, and the secondary fever and most of the visceral changes, such as thrombosis, local necrosis, etc., can be accounted for by this secondary infection.

The antivaccination societies continue to oppose prophylactic vaccination with undiminished vigor, and the profession holds an undivided front as to the efficacy of a thorough vaccination.

Contagious Energy.

Claude du Bois-Reymond gave us a new concept in the term "contagious energy." He points out that tuberculosis is a contagious disease, but its contagiousness as regards time is quite different from measles. The term is a mere abstraction which denotes the changes in the frequency of infection. He proposed to measure contagious energy by the average number of healthy individuals infected by one single case and within one daily period. By mathematical means he attempts to establish rules governing the spread of tuberculosis and other diseases. Studying this law, he finds that tuberculosis is distinctly on the wane, and nature is making strong efforts to exterminate the disease. He does not see how by artificial means we shall hasten

this extermination very much. The true struggle against tuberculosis must take in hand the healthy, in the first line the children. They should be strengthened from birth and educated toward natural immunity.

The Fight Against Tuberculosis.

While, on the one hand, certain theorists regard all efforts to suppress tuberculosis as futile, on the other a large number of clinicians see much that can be done. During the past year a very large number of papers on this subject has appeared, and much has been suggested to modify the existing evils. The statistics published from various German sources show a marked decrease of the mortality, but statistics from the autopsy records show that the infection is almost universal in the aged. Hence, the import of individual resistance receives first attention, and Behring even regards extensive measures to prevent contagion by isolation as unnecessary. But the establishment of sanatoria, antituberculous dispensaries, and lecture halls continues with apparently magnificent results. Patients are taught how to increase bodily resistance and to avoid communicating the disease to others. To Flick, of Philadelphia, Knopf and Biggs, of New York, belong especial credit for stimulating the profession in an observance of practical measures to prevent the disease. But experimental research made by Behring, Koch, Neufeld, de Schweintz, Pearson, Trudeau and others have demonstrated that it is possible to procure a marked degree of artificial immunity in animals, and it is possible that some general immunizing method may soon be discovered.

Predisposition to Tuberculosis.

The propaganda under the direction of these eminent men toward the eradication of tuberculosis is bearing fruit, and meanwhile the theorists are disputing concerning individual predisposition. For some time there has been a distinct tendency to place more stress on the multiplicity of infections than on inherited predisposition. As Flick before the Pennsylvania Society tersely expressed it, "Consumption is not inherited; on the contrary, immunity gradually comes to those in whose ancestry the disease existed. What immunity the white race enjoys has come to it through heredity. It is to children of consumptive parents that we owe the protection we now possess."

But Behring recently has again laid special emphasis on the

heredity of a special predisposition, showing that we are still wrangling over elementary principles.

How Does Tuberculosis Enter the Body?

Another primary fact upon which the theorists and experiment-
alists have wasted much ammunition during the past year is the path
of entrance of the tubercle bacillus. As mentioned, Behring in a dog-
matic way asserted that the gastrointestinal route was the principal
way. Hueppe has also confirmed that the alimentary mucous mem-
brane may take up bacilli and leave no trace in the intestinal or adja-
cent glands. Herxheimer, however, in a series of experiments on
guinea pigs, demonstrated that when tubercle bacilli were inoculated
into the trachea within one hour bacilli were found to pass through the
bronchi and bronchial into the alveoli. Most of the tubercle bacilli
reached the alveoli without causing much damage; there, however,
the injury to the tissues rapidly appeared in a destruction of the
elastic fibers and a proliferation of the epithelium.

All this has, at least, clearly shown that tubercle bacilli may enter
the body in various ways, and that the condition of the lymphatic
nodes in any region gives no clew as to the way in which the bacilli
entered the host.

Old Age.

Specialism is establishing new departments, based on the newer
developments of scientific medicine. For many years the peculiarities
of the young growing individual has found a place in a special depart-
ment of study. Now, it has been suggested that the decaying man
shall also receive separate consideration. An interesting contribution
to this subject during the last year has appeared, written by the distin-
guished pathologist Metchnikoff of Paris. Most of his generalities are
distinctly speculative, and as such will stimulate research. Certain it
is that the causes of the waning of man's life forces deserve manifold
and persistent investigation, for in it is promised the extension of hu-
man life. He finds that senile atrophy is caused by a displacement
of the specific cells of the various organs by connective tissue. He
posits the hypothesis that the destruction of these cells is brought
about by the large phagocytes. The solution of the problem in ward-
ing off death, therefore, lies in the strengthening of the tissue cells and
inhibiting the activity of the phagocytes. By this means life may be

prolonged. Metchnikoff declares that it is not impossible that some serum may be discovered which shall accomplish this. Finally, an instinct of death should replace that of life and thus all the fears and agony of impending dissolution be removed. (See editorial *Boston Med. and Surg. Jour.*, Dec. 3.)

Practical Immunization.

Much attention has been given during the past year to the question of immunization toward various diseases; to tuberculosis has already been referred. Typhoid fever has been studied in this respect for some years, particularly in England. A valuable contribution by MacFayden on the possibility of disintegrating typhoid bacilli after freezing them with liquid air, has been supplemented by additional experiments. The disintegrated typhoid bacilli were injected into monkeys and their serum obtained valuable prophylactic and curative properties. This method certainly promises more than any other method that has, as yet, been proposed.

Blood Differentiation by the Precipitin Test.

The result of several experiments have been published. Austin called attention to numerous errors which might occur, and suggested several methods of control. Robin proposed the use of the hanging drop and microscope to observe slight precipitations.

Ewing and Strauss made extensive experiments, and gave elaborate directions for the methods of applying the precipitin test. They emphasize that without the employment of several controls, no reliable conclusions can be obtained from this test. It is necessary to test the serum on the blood of several domestic animals, as there is considerable variation in the specificity of different rabbit sera. That the precipitin test will be widely used in medico-legal cases does not seem probable now.

Syphilis.

Of special interest are the seemingly successful efforts of Joseph and Pyorkowski in finding the specific cause of syphilis, the bacillus of syphilis. Their claims are certainly as strong as those of De Lisle, who also asserts the discovery of such a bacillus. The recent demonstration that the chimpanzee is susceptible to the virus, would furnish an animal upon which their relative claims might be tested. The final

isolation of the cause of syphilis can be expected, and another field will be open for researches on immunity.

The Plague.

The dissemination of the bubonic plague by rats and mice belongs to the well-established facts. Pigs may also be spontaneously infected, and in certain communities it has been shown that insects may also carry the disease. An interesting contribution by Gasio relates the fact that bats are easily infected and may thus serve as a medium of contagion. It would seem, therefore, that in the suppression of an epidemic a careful supervision of other animals beside the rat is necessary. Fortunately the dog and the cow are immune. In the November number the proven value of the Haffkine prophylactic has been discussed.

Scorbutus.

The subject of scurvy receives attention principally in pediatrics, since the disease is so rare in adults. While not much original research on the subject has been done, we must call attention to the communication of Netter at the end of last year, who claims to have suggested the proper etiology as early as 1898. The fact has been established that heating the milk and other foods diminishes their antiscorbutic qualities, and reasoning from this Netter found, as we know, one antiscorbutic element—citric acid. The heat must destroy this compound.

Various investigators have shown that citric acid is mostly combined with calcium, and heat precipitates this compound. In one liter of human milk 0.5 grammes of citric acid have been found; 1.5 grammes of citric acid have been found in a liter of goat milk. A liter of milk, therefore, contains about as much citric acid as an ordinary lemon.

But Netter does not assert that this important compound is the only antiscorbutic substance; there are others, no doubt. Since clinicians have recognized these facts, scurvy in infants has become less common.

Antiseptic for the Hands.

The difficulty experienced in disinfecting the hands in surgical operation calls for renewed efforts to find the ideal antiseptic. Ahlfeld

at the beginning of the year recommended alcohol as a disinfectant for the hands. The experiments of Harrington and others corroborated the value of diluted alcohol, when used for several minutes. But no antiseptic is entirely safe, and rubber gloves will still be used where extraordinary aseptic precautions are necessary.

The Heart.

Gahli, in a careful study, endeavored to ascertain signs to estimate the working capacity of the heart. Valuable evidence may be obtained from studying the reduplication of the second sound. He believes that diastolic reduplication is an indication of insufficiency of the heart.

The size of the heart has been suggested as a sign of its working capacity. Altogether, we have much yet to learn concerning the working capacity of the heart.

Blood Pressure.

Much work has been done in the study of blood pressure by Cushing, Crile, Cook and others. The conclusion is that it is a valuable aid to diagnosis and prognosis. Moreover, it has also been used as an indicator for therapeutic effort, such as stimulation and depression. The most promising fields are found in the domain of surgery, where, as has been suggested, it may serve as a guide to operative procedures, *e.g.*, in perforative appendicitis, perforation of the intestine in typhoid fever, cerebral hemorrhage, etc.

Cancer.

Nothing important on the etiology of cancer has appeared and the search for animal parasites has greatly lessened. The same may be said of sarcoma. We have not advanced. Several authorities have suggested that a biochemical study may bring us farther to a solution of the mystery.

Alcohol.

Quite a large number of articles on the therapeutic action and clinical indications for the administration of alcohol have appeared. For a time the pharmacologists had everything their own way, and their unanimous decision was that alcohol has little use and nearly always does harm. Gradually, clinicians—Shattuck, Lambert, Osborne,

Hare, etc.—in no uncertain terms again restored this drug to the place it had won. As a heart stimulant it does not deserve credit, but it is admitted that by quieting the nervous system and dilating the capillaris it relieves an overburdened organ.

Mechanical Vibration.

Pilgrim and others have attempted to place the therapy of mechanical vibration on a scientific basis. It can be used as a stimulant, sedative or an inhibitive agent. Some of its advocates are very enthusiastic in regard to its use. The claims are that it improves the flow of blood to the viscera when applied to the spinal center of the nerve supply; nutritive processes are consequently improved; secretion and excretion are enhanced; muscular and general metabolism is augmented, and many other properties are given. We fear that much more work must be done to place this subject on a scientific basis.

Gastro-Intestinal Diseases.

New diagnostic signs have been offered by many observers. Solomon proposed an interesting test based on the supposition that cancer discharges a serum containing nitrogen into the stomach, when the stomach is thoroughly cleansed in the evening; washings in the morning in ordinary diseases gives little nitrogen or albumin, while in cancer these tests are strongly positive. Stockton has called attention to the danger of the use of stomach tubes which are weakened or cracked. He also calls attention to the fact that three fatal accidents have occurred from inflation with carbon dioxide. Mendel asserts that patients with gastric ulcer have an intense pain on percussing the epigastrium. The zone of ulcer involvement in gastric or duodenal ulcer may be accurately mapped out by percussion, the patient noting the locality of intense pain.

The quantitative estimation of the gastric or pancreatic juice as regards their power for digesting proteid has become an established practice in clinical and experimental investigation. The method of Mett has received most attention. Small capillary glass tubes containing coagulated egg-albumen is placed in the digestive fluids and the length digested out is measured. While this method has been criticised, it has become very popular on account of its simplicity.

The administration of oils and fats in hyperacidity is rational and followed by good results. Contrary to the common belief, Morgan has

shown that sugar is suitable and should be useful in hyperchlorhydria.

Hemmeter has added another term to our nomenclature of gastric diseases, namely, heterochylia, by which he designates a suddenly changing state of gastric secretion which occurs chiefly in certain forms of nervous dyspepsia. This author also performed some interesting experiments on peristalsis and antiperistalsis. He concludes that a movement of small particles takes place in the human beings from the rectum to the stomach. It is marginal and not central. The passage upwards goes on simultaneously with the passage downward of fecal masses. But it can not be considered an explanation for the digestion of nutrient enemata, since it can not move the ingesta upwards *en masse*.

Neurology.

The microscopical study of the nervous system continues with new developments. New clinical reflexes and other symptoms are noted, but little progress is made in etiology and therapeutics. In the study of the spinal reflexes Fano found marked oscillations in the excitability of the spinal centers; these oscillations probably depend on a conflict between inhibitory and automatic actions. Walton and Paul studied the Achilles reflex and the front tap. They declare that the Achilles jerk is of equal constancy with the knee-jerk, is more uniform in excursion and requires less skill. In tabes it is found absent more often than in knee jerk. The kneeling posture is preferable in most cases.

Bruce has made the interesting observation that a persistent leukocytosis occurs in acute continuous mania and it usually increases during the exacerbation. He also isolated a coccus from the blood. The pathology of this disease and even that of epilepsy may be relegated into the category of the infectious diseases, and thus a new field be opened.

Studies of Landry's paralysis during the year have added nothing to the known pathology.

In dementia paralytica, according to Diefendorf, there is a pathological increase of the polymorphonuclear leukocytes which reaches its height during the terminal state. The occurrence of tetanoid spasms in certain disorders of the stomach has long been known. These spasms have received special study during the year. Moynihan

reviewed the theories of their causation, which is by no means established.

The parasyphilitic affections have received attention by Post, and after a long column of disorders concludes that it is only the first attempt and not the final account of these affections. The consideration of the remote effects of syphilis increases considerably the gravity of its prognosis.

Genito-Urinary Surgery.

The trend of this department of surgery may be best judged from the proceedings of the American Association of Genito-Urinary Surgeons. Diseases of the prostate seem to be among those for which a variety of suggestions are made. The technic of the operation is modified and new instruments have been invented to overcome operative difficulties. Acute vesiculitis was discussed by Dr. Tuttle, and he dwelt upon the harm often done. Operation for draining the seminal vesicles was advocated by Fuller. The cystoscope, its use, value and limitations, with descriptions of various modifications of the instruments, form a great part of the proceedings.

Antigonorrheic remedies continue to be thrown on the market; their number is becoming formidable, and some have gone back to the old expectant treatment. Probably most cases get well as local infections elsewhere by the production of a local immunity, and the therapeutic efforts are unimportant, or at least not absolutely necessary procedures. It would take a greater mind than ours to pronounce a judgment on the comparative value of these remedies.

The recent advances of genito-urinary surgery have been well summarized by Pedersen (*Med. News*, Oct. 10). Nephropexy still has its many failures, which are explained in different ways, and Guiteras has devised an operation to overcome the objectionable features. Its success remains to be seen. Davis also has published an ingenious method. Absorbable sutures and the avoidance of injuring the parenchyma are recognized necessities.

In nephrolithiasis, the greatest interest centers in the diagnosis, which has been made certain by the use of the x-ray and the ureteral calculus. The pathology and surgery of the ureter is being studied with redoubled zeal.

Asepsis of the genito-urinary tract has been advanced by several preparations designed for this purpose, such as helmitol.

Surgery.

While we publish elsewhere a monograph on surgical progress, we wish to emphasize a few points which stand up somewhat prominent in the enormous mass of literature on this subject which is annually published. The diagnosis of surgical diseases is being improved by the use of cryoscopy, x-ray, and newly-devised instruments. While surgeons are daily attacking new fields, and up-to date there is probably no organ that can not be surgically explored, there is a growing tendency to find the limitations of operative procedures, especially in the infectious and malignant diseases.

Mental Therapeutics.

In spite of the enormous claims of quacks, Charlatism and Eddyism, science is unable to verify the great power of mental therapeutics, outside of hysterical diseases and diseases which obviously run a definite course. There have been numerous articles on this subject, but no substantial progress seems to be forthcoming. And yet the believers in this mental therapy are increasing in number, and even many members of the profession from general impressions believe that there is much in it yet unsolved. The field of study, under the general name of non-physical therapy, must be admitted as perfectly legitimate, and those especially interested may be able gradually to put forth scientific rules.

MEDICAL RESEARCH.**Review of Progress in Physiology, Physiological Chemistry,
and Experimental Medicine.**

In Charge of A. S. BLEYER, M.D.

The experimental physiologic research on the liver and the kidneys during the past year has been unproductive. The ovary has during this time received considerable attention. The ductless glands have been speculated about. Much that is attractive and very mystifying has been launched about the internal secretions—the antitoxic properties of tissue groups, the cytolytins and cytotoxins. The gastro-enteric tract has been studied. The pancreas has been studied—pro-

foundly. It remains, however, the *bête noir* of the physiologist. Some new centers have been discovered in the brain, and something has been learned about the regeneration of nerve tissues—of nerve cells even. Kuliabko has resuscitated the human heart twenty hours after death. A most important matter lies in the fact that the digestive products have entered the physiologic rôle of secretions.

The Ovary and Fecundity.

The corpus luteum, far from passing as a bit of scar tissue, is undoubtedly in every respect an organ, possessed most probably of an internal secretion, which can be taken to serve a strong purpose in the control of the menstrual activities.

Histologically, it is made up of rows of succulent cells radiating out from a common center, resembling closely the structure of a liver lobule.

It is suggested that the internal secretion of the corpus luteum is in some way intimately associated with the vascular and muscular changes of the uterus and its mucosa, incident to the implantation of the ovum. A broad series of remarkable phenomena, which have been understood in only the most mediocre way.

This idea was first conceived by the noted Gustav Born, whose belief lay even in the fertilization processes being under the control of corpora lutea. Fraenkel's investigations (1903), undertaken upon the death of Gustav Born, have seemingly corroborated this belief, this latter observer finding that the size and turgor of the uterus were as well, dependent on the internal secretion of these bodies. Without corpora lutea menstruation is impossible, and atrophy of the uterus occurs.

Maturation of a fecundated ovum is not possible where the corpora lutea have been destroyed, even after such maturation and growth of fetal tissues is already well advanced.

It seems plausible that the corpora lutea closely represent in greater part the ovary—in point of function, and we may believe that those processes considered to be under the control of the ovarian secretion are in fact under the control of the corpora lutea and the internal secretion proper to them.

The condition of the uterus before puberty and after the climacterium would then be due to the absence of these bodies. As to the manner in which the first menstruation occurs and an occasional cata-

menia after the menopause, there has been no satisfactory explanation, and we must take for granted that, although these bodies may, and most probably do, control menstruation, that they nevertheless owe their existence to some intrinsic activity of the ovary itself, since the burning out of corpora lutea will cause the skipping of the succeeding menstrual period, which, however, is re-established when a new corpus luteum is produced by rupture of the ovary at the next period.

When we have been able to isolate the active principle of the lutæ cells, just as we have already isolated the active principle of the suprarenal gland, we may be able to obtain some success with our ovarian opotherapy.

Lutein material has already been proven capable of producing menstruation in the castrated animal. It is said to be entirely innocuous

As to ovarian extract, Strobansky recently found that the serum of animals treated with it had a markedly favorable action on the spermatozoa of animals of the species from which the extract had been obtained. In such serum the motility of the spermatozoa is preserved for a much longer period than in the ordinary serum.

The lymph vessels of the ovary have been studied histologically and anatomically by Polano. He found a lymph system composed of channels, arranged in a radiating manner, converging at the hilus into nine larger vessels, which pass out along the free border of the ovario-pelvic ligament. More lymph vessels are found in the central stroma than in the periphery. He states that the conception of perithelium in the anatomy and pathology of the ovary can be dropped.

The peculiar prevention of fecundation by lactation is shown by Weinberg. He found that only 12 women in 1,000 who were nursing their babies during the six months following delivery became pregnant, while 595 women in 1,000 who were not nursing their babies became pregnant during this same period following delivery. It is, therefore, quite certain that lactation prevents fecundation.

The physiology of fecundation has received some added light from the work of Schücking. He has found several new things—for example, that the development of the ripe ovum is started by the absorption of water. That fertilization of the ovum will occur with spermatozoa placed upon it, deprived of their tails, and that fertilization is not produced by the burrowing of the spermatozoid into the ovum, but

occurs because of the intervention of a hyaline process of protoplasm thrown out by the ovum by which the spermatozoid is sucked into it.

Ivanhoff has found that artificial fertilization is a decidedly more certain means than the natural. Every one of his experiments in horses proved successful. The semen was suspended in an artificial medium—to the exclusion of prostatic and seminal vesicle secretions. The fluids used were various, physiologic salt solution, Locke's solution, or any weak alkaline solution.

It does not seem necessary that the spermatozoa be placed into the cervix, for many positive results were obtained after merely placing them in the vagina.

Spermatozoa retain their fertilizing power for twenty-four hours after the death of the animal.

The Nervous Tissues.

The blood circulation in the peripheral nervous system was nicely demonstrated by Meltzer at the October meeting of the New York Society for Experimental Biology. He threw a new light on the subject by observing the effect of ligation on the vital staining of nerves. Probably nothing in recent years is more important suggestively of the interdependence of the superficial capillary circulation and the proper functioning of all nervous tissues than this brilliant work.

Briefly, his observation consists in the fact that every nerve and nerve trunk gets its blood supply from only two points—its central and peripheral ends. Remembering, then, that the circulation in a nerve tract is influenced vitally by the capillary circulation on the surface of the body, we can readily perceive the clinical inferences that could be drawn in cases where the peripheral circulation is defective, and where, because of interference with their nourishment at this point, the peripheral nervous tissues will become a serious drain on deeper nervous areas—this being their only remaining source of nourishment—and in such way producing almost any degree of circulatory disturbance in the central nervous system.

Another interesting matter has been the self-reparative power of the spinal cord.

Clinical data bearing on the restoration of severed nerve tracts, either after suturing or without it, are not at all new, but that the spinal cord is capable of restoration after complete severance is something new. Two cases are reported, the most remarkable probably

being that of Rodi, in whose patient the separation between the ends was one inch. Some sensation existed below the pelvis in this case twenty hours after the cord had been sewed together. In seven days there was sensation in the ankles. This is in accord with Henricksen's ideas that sensory conduction usually exists during the whole period of regeneration of a severed nerve.

The physiology of the reflexes has received some attention. Hnatek announces that the spleen increases in size on chemical, thermic or mechanical irritation of the stomach. This phenomenon persists after severing the vagus, and must, therefore, occur by way of the sympathetic.

Kohnstamm has attempted to outline the reflex route of temperature irritations. He believes that the temperature and pain fibers run in Gower's tract on the crossed side, and that the cold nerve track is in closer relation to the respiration center than the heat nerve track. He establishes what he calls a "chilling reflex," active by exposure to cold, on the mucous membranes.

Stcherbak has successfully produced automatic reflex phenomena in the somatic nervous apparatus. This is remarkable because of the complete control of this system by brain and cord.

The successful test was to produce ankle clonus that remained present for twenty four days by applying a large magnet tuning-fork to the knee for one hour.

This apparently proves that ankle clonus denotes the existence of an organic central lesion, and that automatic action of the somatic system can be artificially produced—or else it shows the possible dissociation between the inferior (somatic) mechanism and the higher controlling centers, and demonstrates the possibility of independent action of the somatic centers when under some influence foreign to the brain.

The Circulation.

The blood and the blood vessels have afforded interesting study during the past year.

Williams has reversed the final decision of Kölliker on the hematogenic rôle of the spleen, and we are much inclined to revert to our older notions. Williams has found erythrocytes in the structures of the spleen in oxen and hogs. Neumann has seen them in the fresh human spleen. It will be safe then to restrain the trend of opinion,

which during the past few years has inclined us to the idea that the spleen is after all only a rudimentary structure, and bear in mind, to the contrary, that when such men as these have seen red cells in the spleen, that we are nearing a different verdict.

Brewer has found that castration of the young female animal had the effect of producing a regeneration of the blood to its younger type. The composition of the blood, therefore, is certainly in some way under the influence of the ovary. This observation may enlighten us somewhat on the genital origin of chlorosis.

Orlowsky informs us that the red cells are in major account with the alkalinity of the blood, and preserve a fair uniformity quantitatively, except in certain of the morbid states. Artificial alkalization of the blood is of no matter, because of the rapidity of restoration to the normal. To alkalinize the blood is not to increase the red cells. But to increase or diminish the red cell count is to modify the blood alkalinity in proportion.

Mendelssohn proclaims that he has established the fact that the white blood cells are attracted by heat. Thermotaxis is most active at a temperature of from 36 to 39°C. (97 to 102°F.), but is very marked at even lower temperatures. This demonstration becomes then a dogma in surgical matters, and serves to explain many of the excellent results obtained from the use of heat in infections and injuries where the phagocytic cells are perhaps the chief recourse that we can obtain from the tissues, such tissues at least whose normal resistance has already been overcome. The temperature that should be used should never surpass 102°F., since after this point there is a decided diminution in the thermotaxis of the white cells.

As to the physiology of the heart, there has been some scattering and indeterminate work on the intracardiac nervous mechanism. I say indeterminate, because, with a few exceptions, no conclusions can be drawn from it.

Perhaps the most valuable data is that obtained by Kuliabko on the resuscitation of the human heart after death. This he successfully accomplished even after twenty hours in a 3-months'-old infant.

Velich has confirmed previous experiments bearing on the resuscitation of the hearts of lower animals. He found that a dog's heart that had been buried in snow for eighteen hours could be made to beat again. This was likewise accomplished even after placing the heart in

in a frozen-over salt solution for twenty-four hours. In these tests Locke's fluid was simply allowed to flow over and into and through the warmed heart.

The most important deductions drawn from these experiments are, firstly, that there is little difference between the hearts of cold-blooded and warm-blooded animals, especially as concerns the effect of exposure to cold; and, secondly, that the vitally-needed element in resuscitation of a heart is that its chambers and vessels be well distended.

Prof. Spina of Prague has worked out this idea on dogs, and has found that massage of the heart is liable to be attended with success only when the heart is well filled and the vessels well filled. This can be accomplished in one of two ways—compression on the abdominal vessels, or the injection of physiologic salt solution into an artery.

Langendorff's method of resuscitation of the heart is to direct the stream of salt solution directly toward the heart, aiming to distend the coronary arteries, the stream closing the semilunar valves and preventing entrance into the left ventricle.

Resuscitation is possible in this way even after all the nervous connection to the cerebrospinal axis has been severed.

Clinically, the data here quoted will be used for the purpose of tiding over some shortlasting nefarious influence on the heart. It should, moreover, be resorted to as late as twenty hours after apparent death in certain cases where the diagnosis of death is attended with any difficulty.

The Brain.

The ancient belief in the limitation of the motor areas of the brain by the gyri and sulci has been revived. It is remembered that our charts of the brain at present recognize no such boundary lines for these areas.

Several workers, notably Sherrington and Gardinier, seem to have established the fact that all the cortical motor innervations spring from the anterior central gyrus situated in front of the sulcus. It is apparent at a glance that the verification of this data in man (the experiments quoted being made on anthropoid apes) will be of the greatest service, because of the easily reached prominence of such a landmark as the central sulci.

In a recent review of the subject by Farrar we note that the above view is assumed.

Cajal of Madrid has found in the pre central convolution, a particular nerve fiber which he describes as the "motor type" to differentiate it from any such fibers found in the post central regions.

Cajal's motor type is differentiated by the presence of denser radial bundles and a richer development of the tangential fibers lying in the sixth layer of the cortex, where the giant cells are found, and by the absence of a clearly defined granular zone. It is also shown by the marked development of the medium-sized pyramidal cell layer containing the specific plexus, which bears his name.

It is a point of interest to note that Gardinier has located what he considers to be the writing center. This center, he believes, lies in the second left frontal convolution.

Von Cyon locates the sense of space in the semicircular canals as the peripheral organs of perception. He concludes that each of the canals corresponds with one of the three dimensions of space, and believes that the anatomical limitations of the organ restricts us to these three.

As to the sense of taste, Cushing comes to the conclusion that such impulses are not carried to the brain by the trigeminus, either from the anterior or posterior portions of the tongue, although injury to this nerve may for a time impede gustatory impulses from the territory covered by the chorda tympani.

Cajal has made important investigations of the thalamus, and concludes from them that the thalamus is an organ possessed of the greatest dignity, since it is unalienably connected with the organs of hearing and sight, as well as with other sensory tracts.

(To be Continued.)

DIAGNOSTICS.

In Charge of W. L. JOHNSON, M.D.

Review of Symptomology and Diagnosis.

The weight of infants as a diagnostic means and the value of frequent and regular weighing for diagnosis, as well as prognosis and treatment, received attention at the hands of the editor of this journal.

Loss of weight is the initial symptom of acute infectibous diseases when the stage lasts more than a week. The exanthemata, particularly measles, show themselves first by impairing the nutrition. The exclusion of disease can only be certain when sufficient time has elapsed. Inquiry must be made into the food question and condition of the gastrointestinal tract.

If, in spite of all care, an infant loses in weight, and the digestive disturbance is not worse or better, we have good grounds for suspecting latent tuberculosis or syphilis.

Attention was called in our abstracts this year to typhoid spine, spondylitis typhosa, which, according to Kuehn's observations, is sometimes mistaken for a tubercular affection, especially those cases developing a long time after convalescence from typhoid fever.

The diagnostic value of abdominal rigidity is considered by Blake a more reliable sign than pain or tenderness in some abdominal affections, notably perforation in typhoid.

Symmers, after an exhaustive study, concluded that cutaneous angiomata bear no relationship to malignant disease.

Several writers have reviewed the literature on and recited cases of pneumonia in children, accompanied by pain localized in the appendix, and these experiences, though comparatively rare, should put us on our guard. We should resort to Guinon's sign: If, in case of pneumonia, with abdominal symptoms and pain in McBurney's region, instead of pressing heavily at that point, we depress the abdominal wall softly with the whole hand, pain is no longer produced, nor is there defensive muscular contraction.

Along this line Pfaundler's observation of the disappearance of the knee-jerk in children in genuine croupus pneumonia, in a large percentage of cases should be borne in mind and verified or discredited.

The practical determination of blood pressure by Cushing's modification of the Riva Rocci apparatus will prove an aid in diagnosis, for instance, of an impending cardiac failure.

Abram's modified auscultatory percussion—the bony parts only being percussed, while the stethoscope is moved toward the organ to be examined—is one of the many new methods open for trial.

Exaggerated reflexes in carcinosis, the pertussis reflex (touching

the superior vocal chords with the finger, thus producing a typical paroxysm) are two reflexes that may help the diagnostician.

Pyelitis in infancy is referred to in review, because of its comparative frequency and likelihood of being overlooked. Palpate the kidney, examine the urine, in obscure fevers of infancy and childhood.

Chantemesse's method of rapidly cultivating the typhoid bacilli from feces, reported in 1901, has since been simplified. This means, it is claimed, makes the diagnosis positive earlier than a serum reaction can be obtained. (See Vol. xxviii, p. 444, this journal.)

The diagnosis of pancreatic disease was referred to editorially in commenting upon Dr. Fitz's able discussion before the Sixth Congress of American Physicians and Surgeons. The diagnosis is often to be made only on exploratory operation. Intestinal obstruction often causes doubt. The localized tenderness in the epigastrium should make one suspicious.

Fallacies of sugar and albumin tests. The many drugs that influence the reaction of the urine of patients who have taken them have been enumerated by Chartier. (See Vol. xxix, p. 119.)

The observation of Kirby, if verified, will be of some help in diagnosing appendicitis. Press a little external to McBurney's point; while pressing touch other parts of the abdomen, and there is no pain elsewhere.

Masselin's inoscopy seems calculated to help in the detection of the tubercle bacilli when scantily present in the organic fluids.

The bacteriological examination of the blood (15 cc., taken from a vein by means of a hypodermic) has been found by Hektoen of value in many diseases. A pneumococcus infection, without pulmonic localization, may thus be diagnosed. This method is valuable in septicemia. In the first few days of typhoid the bacilli may be found in the blood—before the serum reaction can be obtained. Bouillon is the usual culture medium. Rosenow found the pneumococci in 77 out of 83 cases by the culture and smears methods. In two cases he found the diplococcus in smears but not in cultures. The pneumococcus has been found by Wells as a cause of endocarditis.

The finding by Weaver of the streptococci in the throats of scarlet fever is in accord with many observations of the past.

Forbes claims to have found diphtheria bacilli in the ear discharges of scarlet fever patients.

While strictly a part of bacteriology, these findings and those of Councilman and others concerning the protozoan bodies found in variola must ultimately interest the clinical diagnostician.

Again, the eosinophilia accompanying unciniariasis—and other diseases caused by intestinal parasites—must be borne in mind. It is so indelibly associated with trichinosis, that the observations of Capps and others must be borne in mind.

Cryoscopy, though considered very helpful by some, has not come into general use, nor has the phloridzin test for renal insufficiency.

The summer diarrheas of infancy, and especially the relation of the Shiga bacillus to them, have received much attention. The difficulty of isolating this organism and recognizing it, has made it, so far, a study for the select few. One thing of interest to the clinician is that it is more frequently found in bloody stools than otherwise. We are told that the dysentery bacillus infections have a marked tendency to give a dysentery with mucus, and especially bloody stools. It resolves itself into this that we are yet unable to diagnose the summer diarrheas accurately without skillful help from the bacteriologist.

Very important, indeed, have been the studies, the revelations, of Stiles concerning uncinaria in the South. The dirt eater, with his quickly dilating pupil and profound anemia, ought soon to be relieved, since treatment is based upon accurate diagnosis, and this has been made possible by Stiles. His blotting paper method of diagnosing the presence of the parasite may be of help to the man without a microscope, and at least call for a further examination by the aid of the microscope.

Wilson's relative leucocytosis is again referred to, since we are prone to consider an actual increase of leucocytes an essential to leucocytosis. Wilson maintains that a relative increase of polynuclears also constitutes a leucocytosis.

The clinical significance of albuminuria was considered by Schroeder, who reaches, among other conclusions, these: That it is impossible to determine whether albuminuria is a premonition of further trouble until the case has been kept under observation for some time.

Persistent and even cyclic albuminurias should cause anxiety on the part of the attending physician, who should endeavor to ascertain

the cause and take measures for removal thereof. The earliest indications of Bright's disease will, as a rule, be found in the urine.

Along this line we are reminded of Mix's article on "Medicine" of March, 1903, who emphasizes the importance of physical signs, especially cardiovascular, in the diagnosis of chronic interstitial nephritis. (*Prac. Med. Series*, October, 1903.) Mix believes that the diagnosis should be made upon the physical findings and not upon chemical and microscopical analysis.

He reminds us that the arteries are firm, sometimes tortuous, inelastic, and the pulse indicates a high tension. It is a *pulsus tardus*, the high crest lingering beneath the fingers. Along with this there is usually found hypertrophy of the heart and accentuation of the second sound, both aortic and pulmonic.

Influenza is still a study. We have the peculiar throat "like a rainbow arching the palate," the small yellowish white spots on the mucous membrane, the spots and stripes of Terry and Koplinski, the raspberry tongue in the older ones, the extraordinary amount of sputum separating in three layers—an upper grey layer containing air, a middle layer of fluid consistence, and a thin bottom layer of glassy mucus, or broken-up mucopurulent sediment (Sippy); in fact so many signs that we are lost in attempting to recall them at the bedside.

Tetan's method of diagnosing tuberculosis, or a strong disposition to it, has been recalled by Milroy. This consists of taking the mean of the morning and evening temperatures for twelve successive days. If this exceeds 99.5, the patient is either tuberculous or strongly disposed to the disease. The value of ordinary methods of physical diagnosis in tuberculosis has been given attention by Kohler, and it is well to still resort to physical examination and make diagnosis therefrom. Let the microscopic findings verify your diagnosis. Attention must be paid to slight roughening of the respiratory sounds on auscultation (von Ruck).

The heart and pulse have been the subjects of several studies. Nothing, however, new, except some auscultating percussion methods, such as Ebstein's *tastpercussion*. estimating the boundary by the impression of resistance given to the percussing finger, and Warden's auscultatory resonance—stethoscope over organ, then placing a vibrating tuning fork outside the organ and moving it toward the stetho-

scope until a change in the quality of the tone is perceived. An A fork is to be preferred.

Studies of the pulse relate more to prognosis than diagnosis in the articles before us.

THERAPEUTICS.

In Charge of PHILIP NEWCOMB, M.D.

Therapeutic Progress in 1903.

During the past year many new remedies of more or less importance have been brought forward, but the real therapeutic advance is to be found rather in work done upon drugs and methods known before, rejection or confirmation of the claims of their adherents, and in opening up new lines of usefulness for agents of value already known.

Among the more recent remedies reported upon during the past year, mention is made of the following:

BROMOCOL is a compound of dibromtannin and glue and is recommended in the form of 10 to 20 per cent, has merits as an antipruritic.

DIGITALONE is the result of an attempt to obtain a uniformly active sterile and non-irritating preparation of digitalis for subcutaneous and internal use. It is a 10 per cent non-alcoholic fluid preparation, which animal and clinical experimentation has shown to be uniform, non-irritating and readily absorbed subcutaneously, producing the typical digitalis reaction when given per rectum internally, hypodermically or intravenously, and is aseptic.

LIBANOL is an ethereal oil derived from *cedron atlantica* and is advocated as an anticatarrhal in gonorrhea, cystitis, chronic bronchitis and tuberculosis.

NARKOTILE is an inhalation anæsthetic similar in nature and action to ether.

PYRANUM is claimed to be a mild antipyretic and powerful anodyne, composed of benzoic acid, salicylic acid and thymol in the form of a sodium salt and has been used in the various forms of rheumatism, neuralgia, migraine, sore throat, pneumonia, whooping cough and phthisis.

SALOCREOL is a combination of creosote and salicylic acid and has been used with good results as a topical application in facial ery-

sipelas chronic articular and muscular rheumatism, lymphadenitis and tonsillitis.

STYPTOL is a new uterine hemostatic, useful in all forms of uterine hemorrhage, except that due to subinvolution, and is stated to be free from oxytoxic or outward accessory effects.

VALEROBROMINE, a sedative and antispasmodic, is claimed to have the same therapeutic effects as the bromids, but to be more energetic in action.

VERONAL has been proven a most efficient hypnotic in simple insomnia and in cases dependent upon neurasthenic, climacteric and periodic depression.

Serum Therapy.

In the field of serum therapy some confirmatory progress is to be observed.

Concerning Yersin's serum for bubonic plague, Cairns concludes that it is of the greatest value, being both antitoxic and bactericidal, and should be used early in the disease both subcutaneously in the neighborhood of the bubo and also intravenously in large doses. Haffkine's serum has likewise proven of great value as an immunizing agent during epidemics.

Wasserman has obtained a bactericidal diphtheria serum by inoculating rabbits and goats with diphtheria bacilli, which have been subjected to a treatment similar to that first used by Koch in the production of tuberculin. This serum, moreover, possesses specific agglutinating and precipitating properties and will doubtless prove of great value in the differentiation of pseudo and genuine diphtheria bacilli.

Cairns reports the use of antidiphtheritic serum in advanced and malignant cases of diphtheria by the intravenous route, and advocates the use of larger doses both for subcutaneous and intravenous injection. For the former method his doses varied from 4,000 to 20,000 units, and for the latter from 20,000 to 35,000 units.

Morse gives negative results to his treatment of pneumonia in infancy by the antipneumococcic serum. Other observers have used the antidiphtheritic serum in pneumonia with apparent benefit.

Hirschlaff of Berlin has prepared a serum for the treatment of acute and chronic morphin poisoning, which promises to become of use. It is made from the blood of rabbits which have been subjected

to the influence of morphin for from three to five months; and Gro-freddi has prepared a similar substance from the blood of dogs.

In regard to tetanus antitoxin Packard and Wilson estimate that since its introduction the mortality has been decreased from a general average of 80 per cent of all acute cases to from 40 to 50 per cent, and in chronic tetanus from 40 to 20 per cent. However, one fact stands predominant and that is, that good results are not to be expected from antitetanic serum, unless given in the earliest stages of the infection, and that the best results are to be obtained only when it is administered immediately after the possible exposure.

Josias announces good results in the treatment of typhoid fever in children by Charitmesse's serum in all cases where its use was begun early, and neither local inflammation nor constitutional disturbance was observed to follow its administration.

The serum therapy of dysentery has hardly come up to expectations, and is yet not so far removed from the stage of experimentation that definite judgment can be passed upon its utility.

Favorable reports have been made by several observers upon the use of Dunbar's hay-fever antitoxin.

Among therapeutic measures which were lauded to the skies upon their introduction, and later were made subject to dispute of their claims, we may call attention specially to the use of formalin in septicemia, advocated most enthusiastically by Burrows upon the substantial basis of one case so treated which happily recovered.

Waitzfelder reports another recovery, but attributes the result not so much to the germicidal action of the formalin as to the presence of additional fluid in the general circulation. Le Baner and others report deaths from various forms of septicemia treated faithfully by the formalin method.

W. H. Park, from experimentation upon rabbits, concludes that the intravenous injection of formalin is not only useless, but exerts a deleterious action upon the blood, causing more or less disintegration of the red blood corpuscles and actually lessening of the resistance of the system to the microbic invasion. Snodgrass and Elbrecht demonstrated that it takes over an hour for a 1 to 500 solution in animals to kill the organisms, and four hours for the action of a 1 to 1,000 solution. Barrows only used a 1 to 5,000 solution. Hare also points out that the temperature of the solution Barrows administered, 60° to 70°F., is far too low for intravenous injection.

Ferguson's discovery that lemon juice has the power to destroy the typhoid bacillus received experimental corroboration from the Chicago Board of Health, but the statement is vigorously disputed by Bissell, bacteriologist to the Buffalo Health Department, who, after similar tests, declares that lemon juice has very little, if any, action upon the typhoid bacillus, and that the treatment of water by this method to prevent a possible infection is to be discouraged.

Since gelatin injections were first recommended for the control of severe hemorrhages from various organs, and for the treatment of aortic aneurism, fatal results have been reported following their use due to septic thrombosis, phlegmonous, malignant edema, and twenty-three from tetanus alone, according to the statistics of Chauffard and Dieulafoy.

Levy and Bruns obtained tetanus bacilli from eight out of thirteen samples of gelatin examined.

Doerfler states that prolonged and energetic sterilization does not at all interfere with the therapeutic value of gelatin. According to Foster and Brehmer, however, large masses of gelatin must be exposed forty minutes to a temperature of 100° to 120°C. before all tetanus spores are killed. While the use of gelatin in aortic aneurism has not realized the hopes entertained for it, yet its undoubted value in all forms of hemorrhage will once more bring their agent into favor, since its sterilization is possible with consequent elimination of the greatest danger involved.

During the past year many observers have testified as to the clinical value of lecithin, the chief phosphorus constituent of nerve tissue and egg-yolk. Arie ascribes great virtue to lecithin in senile affections and convalescence from acute diseases. G. Carriere has treated rickets with this substance dissolved in cod liver oil. Excellent results have been obtained by Narbet with lecithin in athrepsia, and among the favorable reports upon its use in phthisis are those of Zaky, Claude, Beauchant, Tabary, Gilbert and Fournier.

Nuclein is another valuable organic compound containing phosphorus, and Burnet of Edinburgh is one of the advocates of its derivatives mercuriol, cuprol, narbol and ferrinol.

Thiocol as a substitute for the nauseous creosote is steadily gaining in favor in the treatment of acute and chronic bronchitis, pneumonia and more particularly in pulmonary tuberculosis.

Its superiority over other guaiacol compounds is claimed to lie in the fact that where only 7 per cent of guaiacol carbonate is absorbed 70 per cent of thiocol is assimilable.

The new proteid silver substance argyrol has also steadily gained in favor during the past year, and as an antigonorrheic is recommended by such eminent genito-urinary authorities as Edward Martin, Guiteras, Christian Ayres, Branstord Lewis and Horwitz.

Acetozone, introduced last year, seems to have sustained its claims to efficacy in typhoid fever, acting as an intestinal antiseptic, lowering the temperature and shortening the duration of the disease. Woods and Thrush report 53 cases treated with acetozone and no deaths, while Harris, with 128 cases, gives a mortality of only 8.59 per cent. The drug is also advocated by Jas. M. Brown in the treatment of atrophic rhinitis.

Pilocarpine has entered into a new field of activity in the treatment of lobar pneumonia, and its use is enthusiastically advocated by Poulet, Palkovics, Sziklai and O. Pelzl. A case of strychnin poisoning successfully treated by means of pilocarpine as a last resort is reported by Batson.

Sodium glycocholate has steadily advanced in the treatment of hepatic torpidity and insufficiency, and is regarded by Hill as almost a specific in hepatic colic, although contraindicated when the duct is occluded.

Progress in x-ray therapeutics during the past twelve months consists rather in establishing the limitations of this treatment, and in a more rational application, than in the discovery of new avenues of usefulness.

J. B. Murphy has chronicled an important advance along this line, however, in the treatment of tuberculosis of the joints by means of the x-rays. Two cases of knee-joint involvement and three of tuberculosis of the spine were reported with gratifying results.

The use of the salts of radium in medicine is a new departure, which has received some clinical support in the treatment of lupus rodent ulcer, superficial cancer and some cases of deep cancer, certain forms of skin diseases, atrophy of the optic nerve and partial blindness from other causes.

Soddy has suggested that radium be dissolved in water and the gaseous emanations be inhaled by tuberculous subjects, the result being the deposit of a thin film of radioactive substance in the air cells of the lungs, which acts upon the diseased tissue along the line of the well-known germicidal properties of this agent.

Tracy, in reporting upon the therapeutic uses of radium already known, advances the opinion that later discoveries will show this substance to be of service in yet other diseased conditions.

SOCIETY PROCEEDINGS.

ST. LOUIS OBSTETRICAL AND GYNECOLOGICAL SOCIETY.

*Meeting of October 15, 1903; Dr. W. G. Moore,
President, in the Chair.*

Dr. FUNKHOUSER reported a case of

Placenta Previa.

He said that the woman expected to be delivered about a month and a half later. When he called to see her he found her bleeding, and any movement made by the patient would bring on a flow of blood in increasing quantities. An examination showed that there was an adhesion of the placenta around the neck of the uterus, possibly a half inch. The connection was severed and a forceps delivery made. After the delivery of the placenta there were found clots of blood as large as both of his fists. The blood was very black, and coagulated. He said that he had no doubt but that the fact that he did sever the placenta and allow the head to pass down stopped the bleeding.

DISCUSSION.

The speaker, in answer to a question by Dr. Moore, said that there was no considerable dilatation when he called. The child was but recently dead when delivered.

Dr. MOORE said that Dr. Funkhouser's case recalled a case which he himself had reported as "A Bloodless Case of Placenta Previa" about a year ago. In reporting that case, he said that attention had been called to the fact that a polypus had been cut out of the mouth of the uterus, and that on the side of the os there was a necrotic spot. This was about a year ago, and the Doctor called the case to the attention of the society again, as it promised further interesting developments. About two months ago she called to see him, stating that she

was again pregnant and was very anxious to carry her child. The examination showed that identical necrotic spot. The woman, he stated, is in perfect health.

Dr. NEWMAN said that if he remembered correctly, in reporting the case, it was stated that she had been delivered of two children prematurely before, and that there was a laceration of the cervix.

Dr. MOORE, in reply, stated that there was no laceration of the cervix. He said that each time she came to him he had been particularly careful to avoid any charge that he had brought on premature labor by indifference.

When she called to see him a few days ago there was that same condition of more or less oozing. She is about four months advanced. She said that the polypus was cut from the womb, and the Doctor's idea was that the spot which he saw was the site of the polypus. It is not an active ulcer, but remains just about like it was a year before. It is in the wall of the uterus and there is no tenderness at all. By placing a piece of cotton on it, the cotton can be saturated with blood. There is no increase in the size. He would like an expression of opinion as to what that spot represents.

Dr. LAREW inquired whether the woman had been examined between the time of her last confinement and the date of her last call at Dr. Moore's office, to which Dr. Moore replied that she had not.

Dr. NEWMAN inquired whether there was any history of syphilis in the family.

Dr. MOORE replied that he had questioned her on that point, as well as her husband, and was certain that there was no taint of syphilis in either.

Dr. NEWMAN said it seemed to him purely a speculation as to what the cause of the trouble was. He thought that so many abortions would ordinarily raise a suspicion of syphilitic conditions. He suggested that the patient be put on a mixed treatment, such as proto iodide of mercury, or something of that sort, besides 10 to 14 or 15 grains of iodide of potassium, but the case would have to be judged accurately as to whether the woman could stand this treatment. If the treatment caused no uterine disturbances it would be well to note the condition of affairs about six weeks after the treatment had been instituted. If her condition remained about the same, he thought it might be well to try a specific application to the ulcer without going

into the mouth of the os. The Doctor said that he was speculating, but that if the patient did not improve under the mixed treatment, it would do her no harm. In the event that the treatment outlined above resulted in the healing of the ulcer, the Doctor said he would presume that it was a case of syphilis, and would suggest that the babe be watched closely to see whether it exhibited any signs of syphilis or not.

He also thought that this might possibly be a malignant disease of the cervix. The only argument against this was the fact that the woman had been examined a year previously and exactly the same condition found, while experience shows that malignant diseases always grow more rapidly during pregnancy.

Dr. BROWN stated that he had recently had a rather interesting case of prolapse of the uterus. The womb was nearly coming out. The abdomen was opened and the womb operated upon.

The Susceptibility of the Negro to Tuberculosis.

Coleman (*Ex.*, October 24, 1903) considers the race to be peculiarly susceptible to tuberculosis and submits statistics from several of the large cities of the south showing the mortality from tuberculosis during the past five years to be twice as great among the negro population of the south—where practically 90 per cent live—as in the white race. The writer considers this due to the fact that since the civil war the negro has become dissipated; lives on poorly cooked food and in ignorance of the laws of health. They flock to the city; do not live the open-door life and are poorly dressed; they are more exposed to the disease owing to their occupation and negligence. Venereal diseases depletes the race to a deplorable extent. The question is asked: "Is there any remedy?" and answered in the affirmative. The author believes that years of patient work and co-operation on the part of both races will be necessary to compass it. The board of health of each town should assist in the work.

REPORTS ON PROGRESS.

MEDICINE.

In Charge of EDMUND A. BABLER, M.D.

The progress made in medicine during the past year has been quite marked. The many new inroads made by the patient, painstaking investigators in all parts of the civilized world have tended to draw aside the curtain of doubt and obscurity, thus illuminating many heretofore darkened recesses, permitting us to obtain a better and clearer understanding of the true condition.

Many time honored and long-cherished theories have become untenable, others placed upon a more solid basis, and new ones acquired—the value of which time alone can demonstrate.

In presenting a conscientious review of the vast literature that accumulates in the course of a year, we are impressed with the fact that many contributors have relegated “quality” to the background and have forgotten that a clear, concise presentation of the important facts, based on close observations, and with conclusions enhanced by experience, are of more benefit and appeal with greater success to the busy practitioner than a “quantity” of perfumed theories.

We have attempted to review several of the best journals, and below we present notations from a few of the investigations that seem worthy of careful attention and special consideration.

Koch's¹ Assertion

That human tuberculosis differed from bovine tuberculosis and could not be transmitted to cattle, and *vice versa*, has found a most aggressive antagonist in von Behring², who maintains the identity of human and bovine tuberculosis, and contends that the main source of phthisis occurring at any time during life is due to infection through the milk during infancy, whether the tubercle bacilli in the milk be of human or of bovine origin. He³ further holds that in early life the intestinal epithelium does not secrete mucous and other substances in

sufficient quantity to protect it against the invasion of the tubercle bacilli within the intestinal tract. Hence the frequency of intestinal tuberculosis in infancy and early childhood. Von Behring⁴ has immunized cattle by injecting into the jugular vein .004 gm. of a desiccated culture of human tubercle bacilli after the bacilli have been ground in a mortar and emulsified in 4 cc. of a 1 per cent saline solution. A second injection of .01 gm. is made at the expiration of a month, but the emulsion must be freshly prepared. He⁵ believes that by feeding children milk from cattle immunized against tuberculosis, we may protect against tuberculosis. Maragliano⁶ supports this latter view (after extensive researches).

Thomassen⁷, Pearson and Gilliland⁸ and others have confirmed the early experiments of von Behring.

Fibiger⁹, Heffron¹⁰, deSchweinitz¹¹ and others¹² agree that Koch's theory is untenable, and the former investigator says that the bacilli of bovine tuberculosis are more dangerous for man than human tubercle bacilli.

In presenting Koch's recent investigations, Neufeld¹³ asserts that the former conclusions of Koch have been fully confirmed, as were his convictions that the agglutinating power and the degree of immunity were intimately connected. While he was unable to immunize the guinea pig, even though this animal is quite susceptible to both human and bovine tuberculosis, the successful immunization of cattle has been accomplished. The technic, however, differs from that employed by von Behring. Koch found that the toxin of bovine tuberculosis—*perlsucht*, was much more active, *i. e.*, stronger than that of human cultures. The recent researches of Cook¹⁴ in India seem to favor Koch. While we await the conclusions of the British Tubercular Congress, it would be well to guard the milk supply by every known prophylaxis against bovine infection.

The Tuberculin Test,

As a diagnostic method, has acquired many new supporters and is of undoubted value, although it can not be depended upon in every instance. Madison¹⁵ employed it in 500 cases, but added .5 per cent phenol to Koch's original preparation, and he believes that the dose should be 3 to 5 mg. and the maximum 7 to 10 mg.; the temperature should be normal before injections are made, a rise of 2°F. during the first 24 hours following an injection indicates a temperature reaction,

He agrees that the test is not absolutely trustworthy in every case. Von Behring¹⁶ considers the reaction due to the phenomena of coagulation and agglutination, induced by the contact of this preparation of tubercle bacilli with the otherwise soluble antibody produced in the body by the action of the tuberculous lesion. Rotch¹⁷, Grünewald¹⁸, Pottengen¹⁹ and McCaskey²⁰ laud the value of the test. Freymuth's²¹ experience with Koch's original preparation demonstrated the reaction to be more powerful the shorter the interval since infection. Marmorek considers that the rôle of tuberculin is to cause an excitation of any tubercle bacilli present, as a result of which they produce the toxic materials, whose absorption brings about the febrile reaction. He is convinced that tuberculin is not the true toxin of the bacillus tuberculosis. (Editorial, *Jour. Am. Med. Ass'n*, December 12, 1903.)

The Treatment of Spleno-Medullary Leukemia.

A new and successful method for the treatment of spleno-medullary leukemia is reported by Senn²², whose patient was a foreign born Jewess, 29 years of age. Case was considered hopeless. By the daily applications of the x-ray to the spleen, lower end of sternum and epiphyseal extremities of the long bones, lasting 10 to 20 minutes, unless contra-indicated by condition of the patient, recovery took place at the end of the fifth week. Improvement in the condition of the blood kept pace with the reduction in volume of the spleen, and the first decided change noted was a gradual disappearance of myelocytes and eosinophiles, with return of erythrocytes to their normal shape. Senn considers the disease of microbic origin and the microbes are very susceptible to the antimicrobial action of the rays.

Polycythemia.

A new clinical entity has been fully described by Osler²³, who, at a meeting of the Association of American Physicians in Washington, reported 9 cases from the literature and his own clinic, and contended that their full significance as belonging to a new clinical entity had not been fully appreciated. The characteristic points are:

1. Chronic cyanosis of long duration—3 to 12 years, and of varying intensity.
2. An extraordinary polycythemia—the increase of red cells so far exceeds the normal that the blood count ranges from 9,000,000 to

plays and important rôle in the treatment, and he asserts that in severe cases large quantities of milk are not permitted on account of the salt contained, unless the cow be given special food. Theobromin was found to be the ideal diuretic and is highly commended, since it opens the sluices of the kidney so satisfactorily.

Chautamesse⁴⁴ concurs in Widal's statement and presents two cases of phlegmasia alba dolens thus treated, with recovery. Both complicated typhoid fever.

During the recent epidemic of "para-typhoid" or "para-colon" disease, Hünemann⁴⁵ demonstrated the peculiar organisms in the roseolæ of some cases, but not a case of true typhoid was noted. Epidemics have also been reported by Couvad and Yorgens. Symptoms resemble typhoid, but not so severe, and temperature not as high, and the duration of the disease is shorter.

Typhoid Fever.

Of the 912 cases of true typhoid fever reported—occurring during the epidemic in Ithaca—last year, due to water contamination, not a solitary case has been recorded where the "para-colon" or "para-typhoid" organisms were isolated⁴⁶.

Hektoen⁴⁶ has shown that by careful attention and proper culture methods the diagnosis can be settled. It has been clearly demonstrated that the Gruber Widal agglutination test is a much more complicated process than we have been lead to believe, and that it becomes of more value when every part of the technic receives the extraordinary care and proper consideration required. All will admit that when properly made it is invaluable.

Koch's⁴⁷ latest theory of typhoid prophylaxis consists in early isolation of the patient, disinfection of all clothing and excreta. He does not pay particular attention to the protection of the water supply. While it is true he has been able to attain excellent results, we believe that by combining the prophylaxis suggested, with careful and proper water supply protection, we may attain even better results.

Radium,

The wonderful discovery of the century, promises to be of great value and superior to the Roentgen rays in the treatment of malignant tumors and chronic skin lesions.

Its value seems to lie in the fact that its power begins where those of the x-ray ceases.

The extreme scarcity and high market value of the metal have tended to cause delay in making more complete investigations as to the actual value of the rays. It has been conclusively demonstrated, however, that the rays of the bromid, whose radio activity exceeds that of all other salts of radium, are similar but much more powerful than those of Roentgen. By placing 30 mg. of radium bromid in a wooden box covered with rubber and having a mica lid, London⁴⁸ found that the rays induced "cold gangrene" on the human skin—designated dermatitis radiogenes. He further found that radium rays are capable of killing mice without direct contact. Where death resulted he found the most profound anatomic alterations in the skin and cerebral cortex. Holz knecht and Schwarz⁴⁹ consider the rays very penetrative and capable of inducing phosphorescence in other bodies.

Exner⁵⁰ reports the cure of a case of epithelioma and two of melano-sarcoma by means of the rays. The case of epithelioma of the mouth had been operated upon three times without success. The applications were made by placing the radium in a capsule, which latter was enclosed in a rubber cot to protect the radium from moisture. Six applications lasting from 15 to 25 minutes were made within less than a month. One of the cases of melano-sarcoma had recurred 3 times. In all of these cases there occurred a complete retrogression and recovery.

Holz knecht⁵¹ has treated cases of psoriasis gyrata, lupus hypertrophicus, epithelioma of the cheek and a case of flat telangiectasia by means of the rays with satisfactory results. He found the rays of radium much more intense than those of the x-ray, and secured results where the latter had been of no avail.

Tracy⁵² believes that radium will be found a valuable agent for the treatment of partial blindness. Holz knecht and Schwartz found that radium was capable of inducing phosphorescence in the sclerotic membrane.

The Pancreas.

Ever since von Mering and Minkowski extirpated the pancreas in the lower animals, we have been trying to determine the true rôle played by the pancreas in diabetes mellitus in man. Extensive researches have been made by Opie, Weichselbaum and others. Since the former investigator has showed so conclusively that of the dif-

ferent elements of the pancreas, the islands of Langerhans are the chief, if not the sole, structures concerned, we have been waiting for further elucidation. Numerous theories have been presented, but all have been found unsatisfactory.

In a very recent monograph Cohnheim⁵³ confirms Opie's conclusions and goes a step further. By means of a powerful press he secured the cellular juices of the pancreas and of muscles. Then by adding glucose to each of these extracts he found that the sugar did not undergo any change in either instance, but by combining the two extracts and then adding the glucose, there occurred rapid and complete destruction of the sugar.

Hence he concludes that in the islands of Langerhans is formed a substance similar in nature to a ferment, since it is destroyed by heat.

When this substance reaches the muscle cells, through the circulating blood, it meets another ferment or proferment with which it combines, and the resulting ferment thus produced is capable of destroying sugar.

Therefore, Cohnheim believes that in pancreatic diabetes there is an absence or deficiency of the specific secretion of the islands of Langerhans that is necessary to render the glycolytic substance produced by the muscles active. While it is true that this theory is not as yet perfect, still it is the best that has been presented, and opens a new field for fruitful research.

Edebohls' Operation.

The treatment of chronic Bright's disease by surgical interference, as recommended by Ferguson and Edebohls, has received the sanction of so many of our best authorities and has been demonstrated to be of such undoubted value, we believe, that in those cases of chronic nephritis, where medical treatment has been of no avail, and in which the process is advancing rapidly, and we fear that the heart will soon become overtaxed, the case should pass to the surgeon, as Guiteras⁵⁴ has advised.

Cryoscopy.

It has been conclusively demonstrated by Tinker and others that cryoscopy of the urine is a valuable method of determining the presence and degree of renal insufficiency. Tinker⁵⁵ found that it gives an in-

dex of the total waste products excreted by the urine, instead of that of a single constituent. By securing the separate secretions of the two kidneys by ureteral catheterization, the value of the method is greatly enhanced. He found that under normal conditions the freezing point of the blood is about -0.56°C . below that of distilled water, with physiologic variations of $.02^{\circ}$; while that of the urine varies between -0.9° and -1°C . A freezing point of above -0.9°C . is understood as an indication of renal insufficiency.

Koeppel⁵⁶, Strauss⁵⁷ and Roeder⁵⁸ have given the matter careful consideration, and the latter thinks that the test should be combined with cryoscopy of the blood in every case.

The phloridizin functional test of the kidney is considered by Casper⁵⁹ to be absolutely reliable in every particular, since it has rendered perfect results in the 88 cases in which he has tested it.

Israel's experience, however, has not been so flattering, and he cautions against the careless use of the test.

Serum Treatment.

In closing we but refer to the extensive work that has been done by Moser, Escherich⁶⁰, Aronson and others in the serum treatment of scarlet fever. The year just closed seems to have been marked by an unusual amount of research along the line of serum therapy.

We herewith pay a loving tribute to the memory of Dr. H. R. Potts, of Halle, and Sir George William Balfour, of Edinburgh, two of our noted workers who have passed away during the past year.

BIBLIOGRAPHY.

¹Trans. British Tub. Cong., 1901.

²Beitrage f. exp. Ther., '02.

³Deutsch Med. Woch., xxix, 39.

⁴Weiner Klin. Woch., xvi, 8.

⁵Ibid., 12.

⁶Klin. Ther. Woch., 19, 20.

⁷Recueil de Med. Veterin., 1, 15, '03.

⁸Proceed. Philadel. Path. Soc., 3, 3, '03.

⁹Hospitalstedende, Copenhagen, xlii, 9, 10.

¹⁰Med. News, 7, 4, '03.

¹¹Jour. Am. Med. Ass'n, 8, 22, '03.

¹²Lancet, 9, 12, '03.

¹³Deutsch Med. Woch., xxix, 39.

¹⁴Indian Med. Gazette (editorial in Jour. Am. Med. Ass'n, 11, 21, '03).

¹⁵N. Y. Med. Jour., 1, 10, '03.

¹⁶Deutsch Med. Woch., xxix, 39.

¹⁷Jour. Am. Med. Ass'n, 1, 10, '03.

- ¹⁸Muench. Med. Woch., 1, 43.
- ¹⁹Therapeutic Gazette, 3, 15, '03.
- ²⁰Am. Med., 2, 14, '03.
- ²¹Muench. Med. Woch., 19.
- ²²Med. Record, 8, 22, '03.
- ²³Am. Jour. Med. Sciences, 8, 19, '03.
- ²⁴Jour. Am. Med. Ass'n, 9, 12, '03.
- ²⁵Am. Med., 6, 27, '03.
- ²⁶Jour. Am. Med. Ass'n, 5, 23, '03.
- ²⁷St. Louis Med. Review, 7, 25, '03.
- ²⁸Am. Med., 5, 10, '02.
- ²⁹Jour. Am. Med. Ass'n, 1, 3, '03.
- ³⁰Ibid.
- ³¹Ibid., 4, 11.
- ³²British Med. Jour., 3, 23, '03.
- ³³Med. News, 4, 11, '03.
- ³⁴Atlanta Jour.-Rec. of Med., 6, '03.
- ³⁵Jour. Am. Med. Ass'n, 8, 1, '03.
- ³⁶Ibid., 9, 19.
- ³⁷Northwest Medicine, 9, '03.
- ³⁸International Med. Magazine, 1, '03.
- ³⁹Am. Med., 10, 31, '03.
- ⁴⁰Ther. der Gegenwart, 5.
- ⁴¹Presse Medicale, 51.
- ⁴²Ibid., 81.
- ⁴³Bulletin de l'Academie de Med., 30.
- ⁴⁴Zeitschrift f. Hygiene und Inf., xl (editorial J. A. M. Ass'n).
- ⁴⁵Editorial (Jour. Am. Med. Ass'n, 3, 21, '03).
- ⁴⁶Med. News, 9, 26, '03.
- ⁴⁷British Med. Jour., 1, 10, '03 (editorial).
- ⁴⁸Berliner Klin. Woch., 23.
- ⁴⁹Wiener Klin. Woch., 25.
- ⁵⁰Ibid., 27.
- ⁵¹Ibid.
- ⁵²N. Y. Med. Jour., 10, 24, '03.
- ⁵³Hoppe-Seyler's Zeitschrift f. Physiol. Chemie., xxxix, 36.
- ⁵⁴N. Y. Med. Jour., 11, 14, '03.
- ⁵⁵Bulletin of the Johns Hopkins Hosp., Baltimore, 6, '03.
- ⁵⁶Deutsch Med. Woch., Berlin and Leipsic, xxix, 45.
- ⁵⁷Zeitschrift f. Klin. Med., Berlin, xlvii, 5, 6.
- ⁵⁸Berliner Klin. Woch., xl, 19.
- ⁵⁹Deutsch Med. Woch., xxix, 25.
- ⁶⁰Wiener Klin. Woch., xvi, 23.

SURGERY.

In Charge of M. G. GORIN, M.D.

To chronicle at length the progress of surgery during the past year would be a task of too great proportions for the limited space of this article. A brief resume, therefore, will be attempted of some of the most noteworthy surgical procedures of the past twelve months.

In the direction of eliminating the necessity for surgical interference in infections, efforts have been made to produce an experimental hyperleukocytosis in the presence of such conditions. The results have not been very satisfactory. It was found after infection had already begun, leucocytosis to a sufficient degree as to produce any beneficial effect could not be produced by the administration of nucleins. Possibly such treatment may confer a preventive protection. As a diagnostic feature, however. Schnitzler asserts that leucocytosis is always present in suppurative appendicitis. This statement is borne out by many other investigators.

Surgery of the Head.

For the relief of tic douloureux, instead of exsection of the Gasserian ganglion, or division of the nerve close to ganglion, subdural introduction of sterile rubber tissue has been practiced. In severe head operations temporary clamping of the carotid has proved of great advantage in avoiding troublesome hemorrhage. Nerve anastomosis for the relief of facial palsy, first attempted by Faure in 1898, has been successfully performed by Cushing, who sutured the divided ends of the facial and spinal accessory nerves, resulting in almost complete restoration of function to the facial muscles. Hammond also reports a case of relief of facial paralysis, due to chronic pyogenic osteitis of the petrous portion, by incision and removal of the necrotic bone, and freeing the facial from pressure. Complete recovery followed.

Prosthetic Surgery.

Many good results are reported in the use of paraffin injection for the correction of facial deformities, especially of nasal character.

Surgery of the Thorax.

Surgery of the thorax has received a great impetus from the advent of x-ray diagnosis, and foreign bodies, tumors and lung abscesses have been located with precision and treated surgically in numerous instances, notably in the case of Poirier, who removed a large growth from the anterior mediastinum. Suture of the heart has been repeatedly performed during the past year, and there are now on record some 40 cases. The experience of those surgeons who have carefully followed and obtained post-operative information in cases of mammary carcinoma, teaches that in such operations the most radical measures are indicated, viz, removal of one or both pectoral muscles, and thorough cleansing of the axillary space, with removal of the

supraclavicular glands. In the diagnosis of renal insufficiency, cryoscopy has played an important part in determining whether or not to attempt nephrectomy when the kidney function is seriously impaired. Also by examination of segregated urine from both kidneys it may be determined whether the lesion is extensive or not. The researches of Czerny have indicated that in the great majority of cases renal tuberculosis is a unilateral disease, which is an important factor in determining nephrectomy. Edebohls' operation of stripping the capsule for relief of chronic nephritis has been performed by several operators with varying success. Such cases are necessarily poor subjects for operation, and such risk should not be lightly undertaken.

X-ray diagnosis of renal, ureteral and vesical calculi have been made recently in the practice of Kummel, Abbe, Bevan and others. Not only were the hard oxalates but urates and even phosphatic calculi detected by skiagraphy, by the use of a strong current and soft tubes. Ureteral catheterization both in the female and male has proven of incalculable benefit in the diagnosis and treatment of ureteral and renal diseases. The work of Kelly, Valentine and Bransford Lewis in this direction is of particular interest.

Exophthalmic Goiter.

Gratifying results are reported by advocates of both the Kocher and Jonesco methods. Mortality from general anæsthesia is very high in thyroid operations, and the good results of Kocher may be attributed in a great measure to the fact that he always uses local anæsthesia for removal of the gland. Local anæsthesia has also been used with good result in exsection of the cervical sympathetic ganglia.

Surgery of the Liver and Biliary Passages.

Kehr succeeded in closing a defect in the wall of the common duct by the ingenious method of forming a pedunculated flap from the two outer coats of the stomach, and swinging it around and stitching it into its new position. Mayo's masterly article, with analysis of some 300 cases of surgery of the biliary passages, gives a good idea of the work being done in this field of surgery.

Surgery of the Pelvic Organs.

Cullen asserts that in about 2 per cent of myomata, sarcomatous degeneration occurs. This should be an additional argument for early removal. In operations on rectal carcinoma the abdominal route for removal has been chosen by several operators, who claim that by this means such a procedure is greatly facilitated.

Hernia.

For inguinal hernia the Bassini method still remains the one of choice. For the relief of umbilical hernia Mayo's vertical overlapping method marks a distinct advance over methods heretofore practiced.

Fractures.

In this department of surgery more than any other, perhaps, has been shown the utility of Roentgen rays. In the treatment of comminuted and articular fractures skiagraphy at once demonstrates whether it is necessary to resort to operative procedures.

Every recent text book on fractures is replete with x ray plates, and each year's work affords additional accurate information in this direction.

Treatment of Malignant Growths.

Treatment of malignant growths which has been actively prosecuted during the recent months by many x-ray operators has led to a valuable accumulation of data regarding the curative effects of this agent in deep-seated carcinomata, etc. Many brilliant results have been obtained in the treatment of lupus, and the effects of the rays are undoubtedly curative, but in summing up the evidence the consensus of opinion seems to be that, especially in deep-seated malignant growths, x-ray treatment is not destined to supplant the knife, but is rather to be used as an auxiliary to prevent post-operative recurrence.

Sutures.

Suture of some of the large arteries, and even an end-to-end anastomosis of the divided ends of the popliteal artery, have recently been successfully accomplished.

A survey of the recent accomplishments in the field of surgery leads one to conjecture whether the sphere of the surgeon is not at the present time much wider than it will be in another decade. During the past ten years who can say how many tracheotomies have been avoided by the use of diphtheria antitoxin, the epochal triumph of serum therapy? Should a like efficient treatment be discovered for tuberculosis and cancer, a further curtailment of surgical operations would be effected. Who can predict to what extent such therapy may reach?

NOTES AND ITEMS.

Announcement.

The management of the **COURIER OF MEDICINE** desires to announce that hereafter the subscription price will be **only One Dollar a Year**. At the same time we wish to give assurance that the policy of the Journal will not be changed. Our endeavor is to supply a very high class monthly journal which shall give to the scientific physician briefly a summary of medical progress. At the same time the articles and abstracts shall not be such that the brevity detracts from clearness.

In this age of vast enterprises in the domain of medical research, medical journals are needed which shall select and classify. The world's best medical literature shall be represented in this publication, and from it the strictly practical shall be carefully selected, at the same time the scientific and theoretical will be so arranged as to throw a modern light on all obscure medical problems.

Of this issue we mail 5,000 extra copies with a view of increasing our subscription, see subscription blank, advertising page 3.

I have found Dioivburnia to be a specific in uterine diseases, and Neurosine to be the best neurotic and hypnotic.

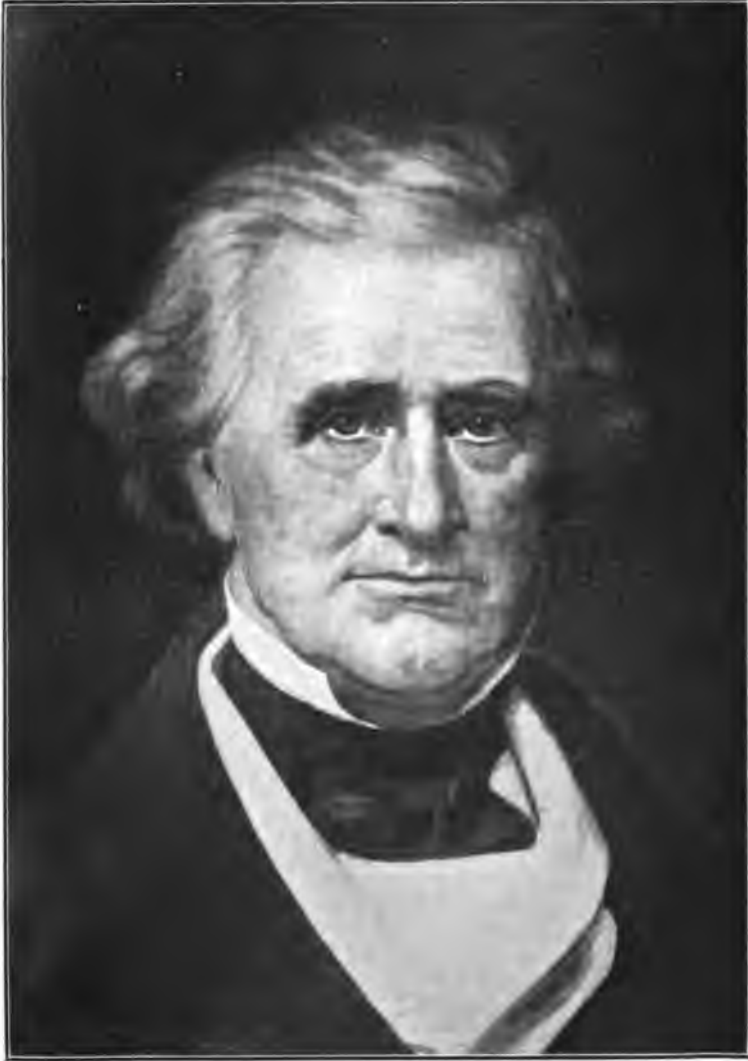
R. A. Williams, M.D., Prof. Gynecology, Knoxville College of Medicine.
Knoxville, Tenn, January 7, 1904.

New Orleans Polyclinic.

Seventeenth Annual Session Opens November 2, 1903, and Closes
May 28, 1904.

Physicians will find the Polyclinic an excellent means for posting themselves upon modern progress in all branches of medicine and surgery. The specialties are fully taught, including laboratory work.

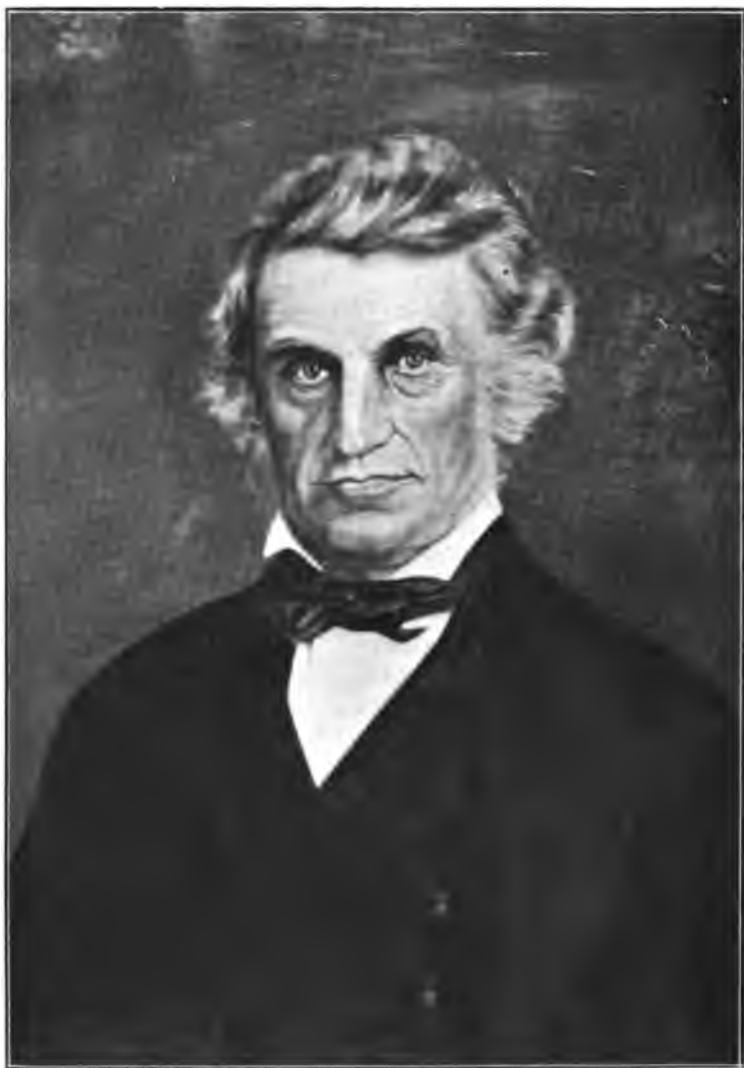
For further information, address, New Orleans Polyclinic, Post-office box 797, New Orleans, La.



DR. WILLIAM CARR LANE.

Born in Pennsylvania, December 1, 1789; Died in St. Louis, January 6, 1863.

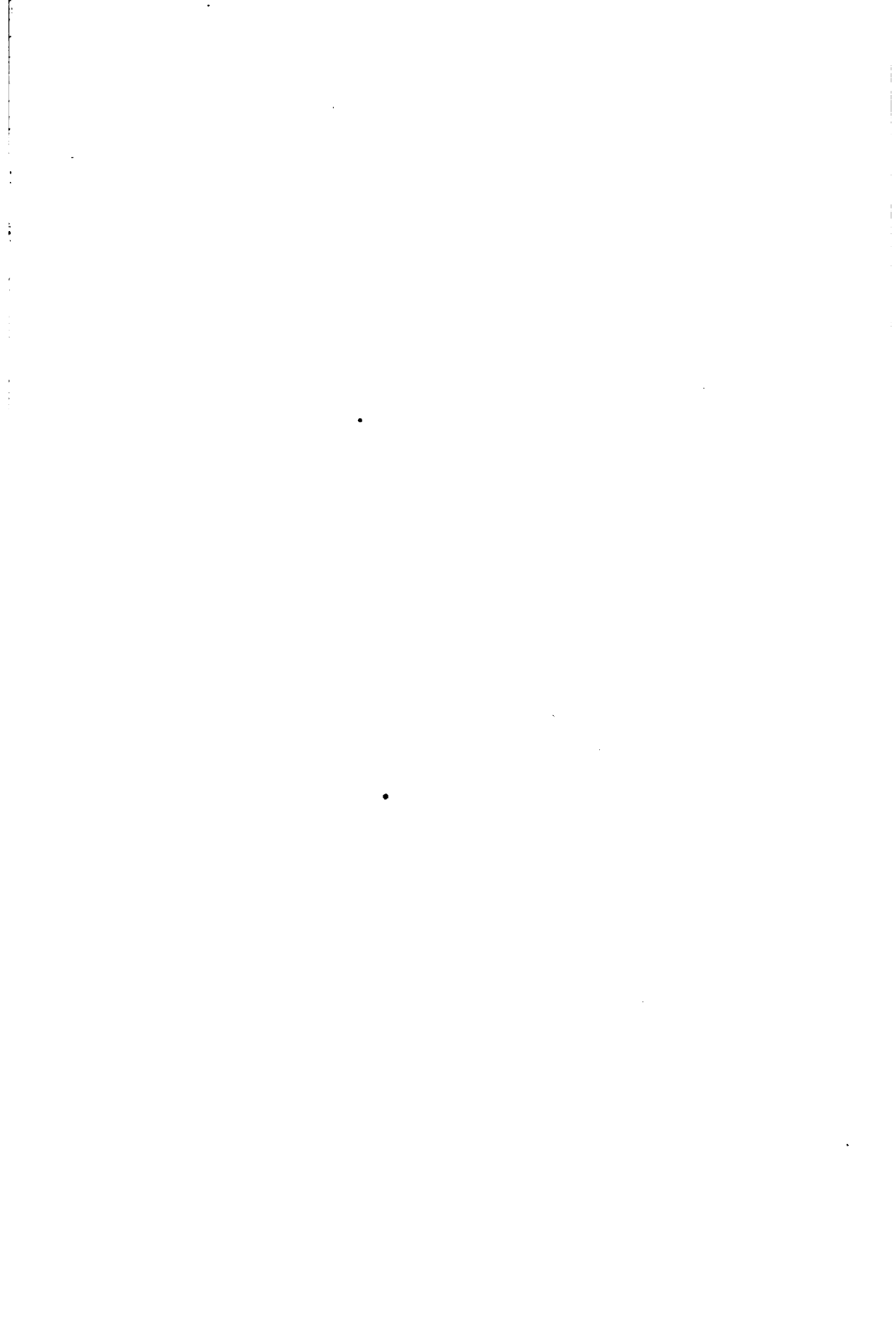
(See Biographical Sketch, Page 123.)



DR. WILLIAM BEAUMONT.

Born in Lebanon, Conn., 1786; Died in St. Louis, April, 1853.

(See Biographical Sketch, Page 124.)



ST. LOUIS

COURIER OF MEDICINE.

VOL. XXX.

FEBRUARY, 1904.

No. 2.

ORIGINAL CONTRIBUTIONS.

Some Observations and Suggestions Concerning Therapeutics in Infancy and Childhood.

By E. W. SAUNDERS, M.D.,

ST. LOUIS, MO.,

PROFESSOR OF PEDIATRICS AND CLINICAL MIDWIFERY, WASHINGTON UNIVERSITY.

WHILE we view with pride the results of preventive medicine, and regard prophylaxis as our greatest aim; while we look with hope for some fruitage from the seed that is daily being sown by experiment and investigation towards the establishment of immunity, yet there is, and will be for some time to come, the necessity for antagonizing diseased and altered conditions to which mankind is subject.

The science and art of healing is, as Brunton expresses it, "the most essential part of medicine," while Bartholow is credited with the paraphrase, "diagnosis, prognosis and therapeutics, but the greatest of these is therapeutics."

The most essential prerequisite is an understanding of the cause and the nature of the disease. We must array our forces against one or the other—the cause, the symptoms, or the altered condition of the economy—or all.

Thus we may inhibit or destroy the plasmodia and leave the rest to nature ; or, we may, in addition to destroying the cause, be called upon to reduce a dangerous, or, at least, uncomfortable hyperpyrexia, and, further, assist nature in her efforts to restore hemoglobin and erythrocytes. Better than all, where possible, is the prevention of the malarial infection, and the source of this, long ago hinted at by King, has only comparatively recently been revealed by Ross, Celli and others.

I need not more than mention the division of therapeutics into empirical and rational, and now we are able to use, with more grace than formerly, the term, pathogenetic therapeutics.

Symptomatic therapeutics still has a large field, but we hope for the day when by prophylaxis and by pathogenetic therapeutics our efforts against the symptoms will be less and less necessary.

Aside from the difficulty of administering therapeutic agents, sometimes experienced, the treatment of infants and children, when based upon accurate diagnosis, is very satisfactory.

Formerly, and to some extent to this day, the "granny" had precedence over the physician, and more faith was reposed in her than in the physician, "when it comes to treating a baby." Happily the subject of pediatrics is receiving infinitely more attention than heretofore ; for where there was formerly no chair at all for this department, in many medical schools, there are now as many as two and, in addition, clinics and clinical lecturers.

The child often can not talk, to be sure ; therefore, he can not mislead ; but a thorough understanding of physical signs and of symptoms makes talking unnecessary.

The cry of earache, the cry of hunger, the terrible apprehension of rickets and of scurvy, the stool, the peritoneal vomitus, the palpably distended bladder, the stare of the pupils, strabismus, laryngospasm, and a hundred other symptoms and signs constitutes a language which, to be interpreted, must be learned by contact and observation. Jacobi says : " Altogether, it has always appeared to me most satisfactory to treat children. They are truthful, unsophisticated ; they are what they appear and appear what they are. In their pathology and therapeutics there is no mysticism, no faith cure, no spiritism, nor any other diabolism."

Personally, I am far from being a therapeutic nihilist. I am as much opposed, as the author just quoted, to conceited nihilism as to ignorant prescribing; and with him "I am opposed to the practice—much too common—of those who do not, for instance, wish to interfere with a whooping cough because it finds its natural termination after several months. This is true, but many children find their natural termination also during these months."

Nor do I subscribe to the purely expectant treatment, if by this is meant making the advent of urgent or vicious symptoms. Rather would I practice and advocate the anticipative attitude, and, reading the probability or possibility of heart failure, exhaustion, toxic asthenia, do my utmost to prevent these, instead of combating them only when established.

What man of us, called to a case of strychnia poisoning, even if not of the belief that it would result fatally, would wait for the development of the worst symptoms? We have antidotes for alkaloidal poisons. And we use them. Why not eliminate the bacterial toxins and counteract their depressing or tetanic influences in so far as possible?

When Marshall Hall poisoned two puppies of equal weight and appearance with strychnia, and put one in a dark cellar, while he worried the other in the light with sinapisms, frictions and the like, with recovery of the first and death of the other, he gave the more appropriate treatment to the first; but if he had injected chloral and kept dog No. 2 quiet and in a darkened room, it would very probably have recovered more quickly than the other.

The incident teaches not that the most appropriate treatment of strychnia poisoning is nothing but rest and quiet, but that this is better than inappropriate measures, which naturally tend to augment the existing motor excitation.

So it is in disease. If we are satisfied that the strychnia is absorbed, or if we are unable to evacuate that which is not absorbed, do we not continue to antagonize its action?

So, too, it occurs to me that, even if the bacteria are in the blood, we should antagonize their influence until such time as antibodies are formed, the bacteria destroyed, and the toxic products rendered inert or eliminated.

Isaac Watts long ago said that "medicine was justly distributed into 'prophylactic,' or the art of preserving health,

and 'therapeutic,' or the art of restoring it," and certainly if we preserve health we prevent disease.

Although not strictly a part of therapeutics, prevention is a part of medicine, and I, therefore, desire to hint at

SOME PROPHYLACTIC MEASURES

sometimes overlooked. The giving of water to infants in hot weather and in fever is neglected. It is nature's diuretic and sudorific. Infants, whether sucklings or not, should be given plenty of water to carry off the waste products of metabolism, the accumulation and retention of which lead to toxic conditions and lessened resistance on the part of the economy.

The little attentions, such as cleansing the eyes, withdrawing mucus from the throat, watching the umbilical stump for bleeding, should be given every infant.

In the newborn, if fluid has been inspired and reflexes are active, thrusting the finger into pharynx to excite efforts of vomiting will clear the lungs quickly.

The desire on the part of some to bathe the infant immediately must be discountenanced, especially in some cases.

I need not plead with most of you to make every reasonable effort to have the mother nurse her offspring—to urge and assist her toward nursing, if not altogether, then in part; for we know that there must be something—antitoxin or antibody—in mother's milk which increases the infant's resistance to infection, and, moreover, the likelihood of rachitis, scurvy and dystrophies is greatly lessened.

I want to enter a protest, however, against prolonged lactation. The occurrence of infection carried by the nurse from the mother to the babe, or *vice versa*, justifies our closest scrutiny of the methods of the nurse, and warrants our being exacting in our directions to and requirements of the attendants.

MEASURES OTHER THAN MEDICINAL.

It is true that hydrotherapy, massage and other measures are coming into more general use than formerly, and in pediatrics the first, at any rate, is superseding the use of drugs to a large degree, or, at least, supplementing them. The use of the bath, cold pack or ice cap, for pyrexia; the thermolytic bath for convulsions (the *hot* bath in this condition has killed more babies than the convulsions)—of lavage and enteroclysis—are all so well and favorably known that I emphasize only

the spray bath, which, when accessible, I nearly always resort to, in preference to any other form. Under high pressure the impact of the several streams produces a superficial glow indicative of good reaction, and conducive to the elimination of heat.

In the Bethesda Foundlings' Home it is our very best and safest resort.

Infants respond to it in a manner not to be obtained by any other measure.

As we well know, it is not only the fall of temperature, but the reaction which we seek in using hydrotherapeutic measures. The eliminative organs are more favorably influenced, the temperature more surely affected, the heart's action strengthened, the reaction most evident, from this high-pressure spraying, than with the tub bath, even though vigorous friction be maintained throughout.

When no spray is available and cold bathing contraindicated on account of chattering, cyanosis, persistent cold extremities, the cold pack from arm-pit to thighs may be used, especially in pneumonia. We must not forget the advantage, too, of hydrotherapy as a preliminary to the successful administration of antipyretic drugs, sedatives and eliminants. Without such we frequently have no physiological action from safe doses.

Under this head we might mention "rest." Rest after diseases. How many cases of typhoid in children have suffered relapses, and how many a young heart has been irrevocably crippled for want of sufficient relative rest during or after rheumatic attacks, no one can estimate.

Inhalations are not as much utilized as they might be. Simple moisture or the vapor from lime water is a valuable help in catarrhal affections of the respiratory tract. In conjunction with suitable medicaments, or as the carrier of these, it is a most valuable adjuvant. In bronchitis, suffocative bronchitis, broncho-pneumonia, influenza, and in whooping cough, not to say anything of spasmodic croup, the advantages of "steaming under a tent," or vaporization near the patient, are incalculable.

DRUGS AND THEIR DOSAGE.

It is a hard thing for some of us who have been practicing a score or two of years, to choose from the vast array of

drugs, galenical and synthetical, not to say anything of the many special combinations. It is harder still for the younger practitioner, and much that is good is lost or temporarily abandoned by choosing the new.

For this reason I mention again some of the older members that have served me well; whose friendship grows on me. The dosage of medicine in infancy is a disputed point, as I have occasion to believe from the many inquiries and experiences that have fallen to my lot. I have known of 1 grain of acetanilid being given every two hours to an infant less than 3 months of age, and this kept up for two days.

Against this temerity, on the other hand, I have known of doses wholly inadequate—utterly ineffectual—being given through sheer timidity. I follow fairly closely Young's rule, except for some drugs, as chloral, quinin, calomel, digitalis and pilocarpin, of which I give a greater proportion; and heroin, morphin, and the like, of which I give less, or base my calculations upon the minimum adult dose.

At one year one-twelfth of the adult dose is given. On the basis of a child's doubling its weight in six months and trebling it in a year, I give at six months two-thirds of one-twelfth, or one-eighteenth, and soon after birth one third of one-twelfth, or $\frac{1}{36}$ th.

Taking, however, chloral for instance, I have frequently given 2 grains at three months, with frequent repetitions. Potter's rule to give a grain for every year hardly meets the requirements. Ashby and Wright give $2\frac{1}{2}$ to 5 grains as appropriate doses of chloral for infants and children.

These authors advise that codein may be given in doses of $\frac{1}{12}$ to $\frac{1}{6}$ grain to infants and young children. This dose I have never approached, and should certainly hesitate to do so, except in peritoneal cases. Notice Holt's table for codein:

1 month	gr. $\frac{1}{300}$
3 months.....	gr. $\frac{1}{300}$
1 year	gr. $\frac{1}{60}$
5 years.....	gr. $\frac{1}{10}-\frac{1}{8}$

I should not care to begin on more than gr. $\frac{1}{48}$, or at most, gr. $\frac{1}{36}$, at one year.

On Dover's powder these authors are more nearly agreed, gr. $\frac{1}{2}$ at six months (Ashby and Wright) and gr $\frac{1}{4}$ to $\frac{1}{2}$ at one year (Holt). The Dovers powders should be mixed by a

careful, competent druggist, and not compounded with a shovel, by some irresponsible wholesale dealer, as I have had occasion to learn has been done. I do not refer to careful trituration made by responsible houses in making tablets.

A drug in which I exceed the rule is antipyrin, giving 1 grain at six months without hesitancy, and sometimes combining with it 1 grain of chloral, despite its theoretical incompatibility.

Iodids and bromids, where the secretion is very tenacious; or guaiacol carbonate and tasteless hydrastis and atropin, where very profuse, and iodids not indicated; with antipyrin, or antipyrin and chloral, fortified by digitalis, in cases with no marked cardiac dilatation, is our treatment for whooping cough. The latter used principally at night; the former mixture in the day. Antipyrin should not be continued too long.

ELIMINANTS.

Under this head stands pilocarpin, which I continue to use in nearly all infectious diseases with faucial and buccal manifestations, measles, scarlet fever, diphtheria, for the first day of treatment only (as an adjuvant to antitoxin); in superficial faucial inflammation, in influenza and tonsillitis; infections of deeper tissues I use veratrum; also in erysipelas, after the manner of DaCosta.

By eliminating toxins, washing away bacteria, and stimulating leucocytosis, it has a definite action for good, and is little short of a specific in some diseases. Brunton says of pilocarpin that "in renal dropsy it not only removes water from the body, but removes urea and probably other products of tissue waste. Some of the urea is excreted in the sweat, and a considerable amount appears in the saliva. Probably the removal of these products from the body is the reason why pilocarpin cuts short uremic convulsions." My contention is, that the waste products, toxins, even the bacteria, are likewise eliminated in the faucial infections.

This drug is given until salivation is evident and kept at that for 12 to 48 hours. There are some points to be observed concerning its administration:

First, it should be giving early.

Second, it will not have its full physiological effect in the presence of high temperature. If high, the temperature must first be reduced by hydrotherapeutics.

Third, it sometimes produces vomiting. This, unless excessive, need not deter one, as this very vomiting is eliminative.

In all cases of weak heart, or embarrassment of respiration from any cause, or late in any disease, it is a dangerous drug and should be avoided.

I sometimes combine calomel with it, for calomel is a glandular stimulant, the action of which on the glands of the intestines and reflexly on the liver, augments that organ's toxilytic function, and is synergistic with pilocarpin, acting, as the latter does, on the sudoriferous, faucial and salivary glands.

ANTIPYRETICS.

The external application of guaiacol is growing more and more in favor. Where, for any reason, the bath is not to be used in hyperpyrexia, and sometimes by preference, a carefully estimated dose of guaiacol, rubbed into the skin, may have a happy effect.

For instance, in convulsions from hyperpyrexia, this is a ready means of reducing the temperature; at the same time it acts as a sedative. In painful functional abdominal affections, with high temperature, the guaiacol seems to have an analgesic as well as antipyretic effect. One must, however, be ready to combat any tendency to collapse which may be brought about by guaiacol. Moncorvo used guaiacol to differentiate between malaria and tuberculosis; it does not reduce the temperature of the former.

Where there is moderate fever and much nervousness, phenacetin and camphor often do well. Brunton is the only author who ascribes to camphor its antipyretic effect. Camphor as a diffusible stimulant deserves the encomiums it receives from Rossbach and from other authors.

In sthenic fevers, as in the beginning of pneumonia, I still cling to veratrum viride (preferably tincture). One-fourth to one drop, diluted, every $\frac{1}{2}$ hour for several doses—until pulse and temperature are favorably influenced—then every 2 to 4 hours during the congestive stage, will not only make a child more comfortable, but also hastens the crisis. After this tincture of digitalis, 1 to 5 drops, every 4 hours.

Carbonate of guaiacol is usually combined with both of these drugs. Castor oil, combined with equal parts of sweet almond oil, a little oil of cinnamon, also guaiacol in intestinal

infections, and a grain of saccharin to the ounce or two of the mixture, is rendered quite palatable. To this may be added bismuth, the subgallate, or, if fever is a factor, a little phenacetin.

SPECIFICS.

Under this heading our first thought, as it is our nearest specific, is that of quinin in malaria. The giving of quinin to infants and children is often a difficult matter. Sometimes it is necessary to resort to rectal administrations, or hypodermic injection. The neutral hydrochlorate is quite soluble in boiling water. Moncarvo claimed to have given several thousand injections without a single untoward result. In infants we have time and again dissolved 3 to 5 grains in a 20 minim syringeful of boiling water and injected it at 100°F. Twice we have had to mourn an induration, followed by a superficial necrosis.

On one occasion the evidence was good that it had been injected too hot.

I desire to emphasize the value of Laveran's formula for hypodermic injection: Quinin hydrochlorate, 30 grains; antipyrin, 20 grain; distilled water, 1 drachm. This solution, according to Blum (quoted in Potter) always proved satisfactory in a severe epidemic of malaria in Algiers in 1894. I have used it in other than malarial fevers, and report, in brief, one such case at the conclusion of this paper.

With inunctions of quinin not much success is to be hoped for.

In severe or inveterate malarial infection, Fowler's solution, filtered, with antipyrin, hypodermatically administered, has proved very effective. Of the newer remedies, our experience has been gratifying with argyrol in ophthalmia neonatarum, also with adrenalin, or suprarenal extract in hemorrhages of the new-born, as established by Holt, with guaiacol carbonate in catarrhal conditions of the upper air passages, in pneumonia, and as an intestinal antiseptic.

SERA.

Antistreptococcic serum has been used largely by us in erysipelas, in scarlet fever, broncho-pneumonia, and streptococcic infections in general.

I can recall some cases which responded to it, but more

that did not. In refractory cases we try the various sera on the market, on the theory of the variety of streptococci, in the hope of reaching the particular invader, Marmorek to the contrary notwithstanding. Antitetanic serum, except as a prophylactic in cases of probable infection, has proved disappointing. It must be given before the union of the toxins with the nerve cells.

The practice of vaccinating with vaccine virus in cases of whooping cough (in patients not before vaccinated) has met with considerable success, and is a measure not as frequently resorted to as the results merit. On the advent of the inflammation and febrile reaction of the vaccinia, the symptoms of pertussis abate in many cases.

For many years I have followed and advocated this plan. If done too late, where the paroxysmal habit has been established, or severe bronchorrhea, or secondary infections have supervened, no good result is obtained.

In pyloric stenosis there seems to be a causal relation between the mother's milk and the symptoms; for the history in most cases does not include the first two or three weeks of life. Withdrawal of the mother's milk and feeding with completely peptonized milk, and the giving of chloral, condurango and atropin, is sometimes followed by improvement. Hot fomentations are anodyne. Later whey, orange juice and broths—almost anything, seems better than unchanged milk. The quantity, however, must be carefully regulated. Cases that bear one and one-half ounces very well at a feeding will sometimes not bear two ounces at all.

Finally, the more general recognition of adenoids and their baneful influence, and the good results of early and thorough removal, is to be commended; while, on the other hand, the tendency in America to total abandonment of tracheotomy is to be deplored.

Since the advent of the serum treatment there is a universal disposition to stake everything upon this agent alone, and the cases of diphtheritic croup are allowed to go until they are in extremis before an effort is made to relieve the stenosis.

In such cases and at the hands of the general practitioner, who has never done intubation before, tracheotomy is the safer measure.

CASE.—M. M., aged 8, female, admitted to Infirmary

Bethesda Foundlings' Home Christmas day, 1902, with fulminant case of scarlet fever. Calomel gr. $\frac{1}{8}$ and pilocarpin gr. $\frac{1}{24}$ every 2 hours. Temp. 103.6°F ., pulse 148.

The pilocarpin increased to gr. $\frac{1}{12}$, but excessive vomiting supervened, and it was withdrawn temporarily.

The next morning temperature was 104.8°F ., pulse 150, throat involvement marked (pseudo membrane), patient comatose. Antistreptococcic serum, which had been unobtainable before, given at 12:30 p.m., December 26th, and five times subsequently. Baths were attempted but abandoned, on account of an idiosyncrasy against them which her mother stated had existed from birth.

Ice cap was kept constantly to the head and throat. The child remained in coma, with but one or two momentary intermissions, for two days, the temperature and pulse keeping high—altogether the case looked desperate; and since the serum had apparently failed, baths contraindicated, medication by the mouth impossible, on the morning of the third day we gave a hypodermic of quinin and antipyrin mixture 15 minims—the equivalent of $7\frac{1}{2}$ grains quinin and 5 grains antipyrin.

December 29th, 8:30 a.m., the temperature 103.2°F ., pulse 150, fell gradually to 101.8°F ., pulse 114 in a few hours after the injection. The coma quickly cleared away. The temperature after this ranged between 101.2°F . to 101.8°F . (one exception 102.4°F .). The child's condition changed for the better and ultimate recovery ensued.

The child received but the one injection of quinin and antipyrin. So satisfactory was the change that there appeared no necessity for repeating the dose.

The usual antiseptic treatment to the mouth and throat was employed.

The serum used was that claimed to be specific for scarlet fever.

ADDENDUM.

Sulphuric acid, like the other mineral acids, has a very beneficent action in malaria, though in this condition I usually combine a small dose of arsenious acid with it. Its use as an astringent is a valuable one, and here it should be combined with the vegetable astringents.

Its use in all suppurative troubles should be more widely

known and appreciated. In suppurative catarrhal troubles it has a remarkable efficiency. I have found the nuclein preparations positive in their value only in conditions of furunculosis, but sulphuric acid is extremely valuable in all purulent catarrhal conditions.

The only objection to its use is that very young babies can not retain it.

Burns: Prognosis and Treatment.

By LAURA HOUSE BRANSON, B.S., M.D.,

IOWA CITY, IOWA.

MODERN methods of wound dressing have caused the old classification of burns by Dupuytren to be somewhat revised, so far as prognosis is concerned at any rate; for prognosis is to be based upon the asepsis that can be secured and maintained.

Instead, then, of the six degrees of burns as formerly designated, we have practically but three:

1. An erythematous inflammation of the skin without vesication. This is due to the action of the heat producing an over filling of the smaller arteries from a simple paresis of their constrictor muscles.

2. Those burns in which the inflammation of the skin results in the formation of vesicles; in these there is an exudation of serous fluid into the tissues, particularly the rete Malpighii; a portion of the epidermal layer is lifted up, constituting the blister.

3. Those in which there is partial or complete carbonization. Burns of the third degree are the result of albuminous coagulation, effecting the contents of the vessels, the serous fluid and albuminous substance of the tissues. Greater or less areas are deprived of nourishment and necrosis of tissue follows.

An exaggeration of this degree constitutes the fourth and fifth degrees mentioned by some authors, these terms being

Read before the Johnson County Medical Society, Iowa City, Iowa, November, 1903, and the Iowa Union Medical Society, Cedar Rapids, Iowa, December, 1903.

applied to either charring of the skin, or of the skin and muscular structure as well.

This includes those burns where sloughing forms are the secondary result of inflammation, and it covers the four more or less intense forms as classified by Dupuytren.

CONSTITUTIONAL SYMPTOMS.

The period immediately following the injury through forty-eight hours is often one of great anxiety; pain is invariably present, varying from a slight degree through to most excruciating agony—congestion of surrounding parts or of internal organs, shock, collapse, convulsions, asphyxia and poisoning from absorption of products of burnt tissues.

Later, from the second to eighth day, there may be inflammation of part, with formation of slough—ulceration and hemorrhage may occur. Still later, there is separation of slough, followed by the process of resolution; there may be fever of a sthenic nature after the first twenty-four hours.

HISTOLOGY

Shows that the skin is composed genetically of two main constituents; viz., an epithelial tissue, the epidermis, and a connective tissue, the cutis—each of these consisting of subdivisions. That the nerves of the skin are almost exclusively sensory and penetrate into the lower stratum of the epidermis, terminating either as free sensory endings or in tactile discs. Consequently, this explains the extreme pain experienced when the superficial portions of the body are burned, and it explains also death from shock in a burn of the second degree. The most painful burns, then, are those in which the outer layers of the epidermis are destroyed, leaving exposed these nerve endings. Death may occur in any one of these periods, the causes of death depending upon the extent of the injury, the depth of the burn and the part affected.

If death occurs early, it is due, usually, to cerebral coma or shock; over-stimulation of the superficial sensory nerves may cause cardiac paralysis.

Later, death may be the result of deep inflammation, intestinal ulceration, hemorrhage, uremia, pyemia, septicemia, tetanus or exhaustion from prolonged suppuration.

PROGNOSIS

Depends upon the extent and depth of injury and also upon the part concerned; an extensive superficial burn is more dangerous than a deep one, limited in extent.

There are many proofs showing that mere reddening of two-thirds of the cutaneous surface will almost inevitably result in death, while destruction of one-third of the skin will probably produce the same result.

In burns of the third class the region affected, depth of tissue destroyed, age, sex, health, etc., will determine the result; slight burns of this degree may result fatally in youth and old age, as in childhood and in age the system generally suffers more severely from burns than in the adult.

Some physicians of known experience and knowledge claim the probability of perforation of the duodenum as one reason for a guarded prognosis. It is true, no doubt, that in this injury the intestinal as well as the respiratory tract is prone to congestion followed by inflammation; this is true, also, of most of the internal organs, the explanation of these phenomena being that as one part of the physical economy loses its function, other parts have, in consequence, more work thrown upon them in order that nature's beautiful law of compensation may not be violated. Why the duodenum should be selected as the seat of greatest injury has not as yet been satisfactorily explained.

TREATMENT.

We find that the general education along the line of treatment in burns, slight in nature, conforms roughly to that followed by physicians—namely, emollient dressings with exclusion of air, although twice I have been called in to find that some well-meaning friend or neighbor had, while awaiting the physician's arrival, made matters far worse by applying kerosene and then excluded the air. Kerosene, though, finds its place in the old armamentarium to relieve pain, but its use is questionable.

Local treatment consists in soothing and protecting dressings, then in disturbing as little as possible, using aseptic dressings if parts have not been exposed to septic influence.

Antiseptic cleansing is necessary when clothing or other foreign material has remained for a time in contact with seat

of injury. If vesicles have been ruptured or carbonization has taken place, asepsis must be secured and maintained if possible, as in these conditions more or less infection may follow. Among the antiseptics used are found boric, picric and carbolic acid, zinc oxid, bismuth subnitrate, bichlorid and iodoform.

Care should be taken in the use of antiseptics when the burn is one of great extent, as such a surface is readily absorbent, and the unlooked-for complication of drug poisoning may arise, causing unfavorable results.

Dr. B. reports a case of burn of the second degree—himself the patient, in which iodoform was sprinkled freely over the surface; in due time symptoms of iodoform poisoning manifested themselves, to the surprise and chagrin of the attendant physician.

Among the emollient dressings our old time friend Carron oil, now spoken of only in derision by some authors, still holds its own; linseed oil varnish composed of lead oxid, 1, to linseed oil 25; salicylic acid, 5 to 10 per cent., painted over part and covered with cotton wool, is of known value.

Normal salt solution is proving itself to be an invaluable dressing.

Clay preparations, I believe, will in time take an important place in the treatment of burns, picric acid with clay being one of the newest remedies.

Baths may be used to facilitate separation of slough, but they should be discontinued as soon as they have served this purpose.

In tardy formation of granulations silver nitrate or balsam of Peru may be used, as in similar conditions from other causes.

CONSTITUTIONAL TREATMENT

Is of great importance; death may result at various periods and from different causes; consequently, our treatment must be modified accordingly. It consists in promptly meeting the symptoms at first and in forestalling them later on—(shock and pain calling for urgent and heroic treatment) in regulation of nourishment, of exercise and of secretions, in counteracting the effects of suppuration and in treating any complication that may arise.

SCARS AND DEFORMITIES.

One of the greatest cares of the physician is the prevention of scars and deformities; he must be ready to meet the indications in each case and by active and passive motion, by position, by splints and by skin-grafting, prevent or overcome.

Deformities as the result of burns are met with frequently, and time will not allow me to more than mention them and then to relegate them to the surgeon, to whom so much of credit is due for the restoration of the function of parts restrained by cicatricial contractions, from this too common injury.

Here, plastic surgery, so rapidly advancing, plays a great part, in that it virtually restores the dead to life by restoring to an organ or part its lost function.

Before leaving this part of the subject I want to call attention to a case recently reported by Dr. Roswell Park, in which an enormous epithelioma developed over the scapula in a cicatrix, resulting from a burn, and carcinomata resulting from cicatrices of burns—not so rare that we can afford to ignore them in our prognosis.

REPORT OF CASES.

CASE 1.—A short time ago I was called in consultation upon the case of a child the third day following a burn of the second degree, covering two-thirds at least of the entire surface. The most pronounced feature at that time was cerebral coma, with suppression of urine. Death occurred the fourth day from uremia.

CASE 2.—Four weeks ago a child, 11 months of age, while crawling upon the floor was badly burned by boiling water pouring upon it from a washing machine; result, vesication and denudation of two-thirds of surface of back, neck and shoulders. The little patient, in condition of shock, was relieved by stimulants, and the burned surface cleansed and dressed.

Because of the age of the patient, the nature and the extent of the injury, the condemned linseed oil and lime water was used and renewed regularly each morning for ten days, each time giving marked comfort and gratification to patient. The creases of the neck were constantly moistened with this application to prevent contraction. During the three days follow-

ing that of the injury there was slight elevation of temperature and the patient lay in an apathetic condition, rousing at times to take nourishment; occasionally restlessness and thirst would manifest themselves. Gradually, from the fifth day, there was a change for the better, excretions by bowels and kidneys became more regular, natural muscular movement returned and convalescence became assured.

This burn was serious in point of extent, and also because of age of the patient.

The Surgical Physiology of the Lymphatic System.

(Abstract.)

By C. H. MAYO, M.D.,

ROCHESTER, MINN.,

SURGEON TO ST. MARY'S HOSPITAL OF ROCHESTER, MINN.

A STUDY of the lymphatic system readily explains many normal physiological, as well as pathological, processes. The subject is deservedly receiving more attention from surgeons who now generally recognize that, aside from acting as the general absorbant system, it is constantly engaged in maintaining nutrition, as well as the defense against pathological processes.

All tissues are provided with lymph vessels and glands in direct proportion to their exposure, activity and necessity for repair. The tissues of the body are constantly bathed in lymph, which fluid, similar to and derived from the blood plasma, must all pass through the lymph vessels and glands. In the glands the lymph is exposed to the direct action of the leucocytes, which are there found in great abundance. It is in the glands that infection is checked and destroyed, if it does not overpower the gland and develop local growth. An enlarged gland is an evidence of a local struggle or a defeat. The lymph system undoubtedly performs a great function in draining the ductless glands. Considering the lymph supply

of certain regions, we find that the brain is deficient in lymphatics in its structure, the arachnoid serving this purpose upon its surface. Hemorrhages into its structure become cysts from lack of absorption and infections in its substance, cause but little temperature or general disturbance, except from pressure. The liver and kidney show the same condition in a less marked degree. The lungs, rich in lymphatics, give constant temperature from infectious diseases. Chills usually signify the direct delivery of accumulations of infection into a vein. In certain diseases resulting from a loss of equilibrium between the production and absorption of fluids, we substitute one set of lymphatics for another by operation, as in glaucoma and hydrocephalus.

When we consider lymphatic conditions in connection with surgical work, we find that there is a real principle involved in drainage, whether it be internal or external.

VARIETIES OF DRAINS AND DRAINAGE ADJUNCTS.

First, is rest by splints, pressure dressing or bed, to quiet the circulation.

Second, by elevation to reduce arterial supply and favor venous and lymphatic return.

Third, by massage to break up coagulated exudates and enable the lymph vessels to remove the exuded material. A good masseur, for instance, will relieve the ecchymosis and swelling of a black eye in a remarkably short time by alternate massage and rest.

Fourth, moist dressings favor escape of exudate from open wounds, and also favor the lymphatic circulation in closed injuries.

Fifth, adjuncts to drainage in the use of solutions having affinity for moisture acting by osmosis, as glycerin or alcohol.

Sixth, wound drainage is accomplished by the open method, with or without secondary suture.

Seventh, by separate incision.

Eighth, by wicks, capillary or tubular drains, or gauze packs, as mechanical aids.

LEADING ARTICLES.

LYMPHATICS IN CARCINOMA OF THE UTERUS.

By GEORGE GELLHORN, M.D., St. Louis, Mo.

E. Ries (*American Gynecology*, July, 1903), after speaking of the different stages of invasion of the lymph glands by carcinoma, refers to a peculiar finding which he was the first to observe. He found, in a few cases, epithelial ducts in the lymphatic glands which, however, could not be considered to be carcinomatous. These epithelial ducts are, as a rule, small, situated in the capsule of the gland, following the trabeculæ of the gland. When the epithelial ducts become larger and more extensive, they may extend into the tissue of the lymphatic gland, but always following the trabeculæ, not like a malignant growth invading the lymphatic tissue. These ducts are composed of low or high columnar cells, with a nucleus in the middle of the cell, sometimes with bristles at the top of the cell. The epithelial ducts are surrounded by connective tissue. The contents of the ducts are either a few degenerated cells or some leucocytes. The ducts are either straight or they ramify. The epithelium is nowhere to be seen in many layers, but always in one layer only. The first case in which Ries found these epithelial ducts was one which contained, besides a carcinoma of the cervix, adeno-myoma of both uterine horns, and an extremely small adenoma of the sacro-uterine ligament. The structure of the adeno-myoma of both uterine horns is very much like that of the epithelial ducts in the lymphatics. The connection between the posterior pelvic wall and the Wolffian body, from which adeno-myomas originate, is so close that it is quite possible that remnants of the Wolffian body may have become embedded in the lymphatics located on the posterior pelvic wall.

The findings of Ries were confirmed by Wertheim, R. Meyer, v. Franquè, Kermauner, Kroemer, Borst and Wuelfing. The explanation of Ries that these epithelial formations represent remnants of the Wolffian body, was not universally accepted.

Wakefield (*Am. Jour. of Obst.*, October, 1903) is inclined to believe that these formations are a primary transitional stage of a real carcinomatous metastasis. In one part of one of his sections the simple gland like formations are seen ; in another part the simplicity of the picture is gone, the gland like structures being surrounded and partially filled with epithelial masses ; and further along in the same section the gland-like formations as such are entirely absent, this part of the section being filled with characteristic carcinomatous deposit.

In the writer's opinion this description of Wakefield is not convincing of a transition of the epithelial formations into carcinoma. It seems to be a more natural interpretation of the microscopic picture that a metastasis is invading a gland already containing the formations in question. Only that part of the lymph node which shows the simple gland-like formations has, as yet, escaped destruction from the metastatic growth.

Wertheim (*Arch. f. Gyn.*, Vol. lxi, No. 3 ; and *Zentralblatt f. Gyn.*, 1903, No. 4) also constructs a causal relationship between the primary cancer of the uterus and these epithelial ducts. In contradistinction to his view, as well as to the explanation by Ries and several of the authors named above, R. Meyer (*Zeitschrift f. Geb. und Gyn.*, Vol. xxxix, No. 3) found such epithelial formations in a femoral gland of a patient who died from eclampsia. Meyer ascribes intense chronic irritation either of a local or general nature as the cause of new formation of epithelial ducts in the lymph glands.

Influenced by Meyer's findings, A. Falkner (*Zentralblatt f. Gyn.*, 1903, No. 50), of Wertheim's clinic, has studied anew the conditions in question. He examined the enlarged paravesical glands in a patient who had succumbed to a large pelvic abscess, ascending pericystitis and putrid purulent proctitis—all these affections having originated from a purulent phlebitis of the right lower extremity. In addition, the diagnosis at post-mortem stated chronic nephritis ; septicemia ; parenchymatous degeneration of the myocardium, liver and kidneys ; acute splenic tumor ; hyperemia and edema of the lungs ; catarrhalic cystitis and a slight general icterus. There was no carcinoma existent in the patient. Microscopic sections through the examined glands showed pictures identical with those described by Ries (see above). This case, then, in which the lymph glands had been intensely irritated by a wide spread suppuration, lasting fifty days, sup-

ports the view of Meyer recorded above. It can not be denied, however, that in an individual case, the uterine cancer may be the cause of such an irritation of the lymph glands, and thus may lead to the formation of epithelial ducts within the glands.

These observations are of no mean practical importance. The tendency of the modern abdominal operation for cancer of the uterus is directed towards the eradication, together with the uterus and its appendages, of the visibly enlarged, if not all, lymph glands. But the studies of Meyer and Falkner have proved that the enlargement of glands may be very harmless and entirely irrelevant to the welfare of the patient. Even if the epithelial formations are due to the irritation from the uterine cancer, the enlarged glands themselves are not necessarily carcinomatous. The writer has pointed out this fact some time ago (*American Gynecology*, November, 1902, p. 490). He referred to an observation made by Wuelfing (*Zeitschrift f. Geb. und Gyn.*, 1903, Vol. xxxiv). This author made a post-mortem upon a woman with an incipient cancer of the vaginal portion. The retroserous lymph glands along the large vessels were considerably swollen, partly of whitish, partly of grayish red color and of medullary consistence. A similar condition was found in the other glands of the true pelvis. Microscopically, there was no evidence of metastases. However, there was in some of the iliac glands a regular glandular formation analogous to the observation by Ries and, in conformity with the latter author's explanation, considered to be an embryologic aberration of epithelium of the Wolffian body. The remaining glands, though markedly altered, showed but an inflammatory hyperplasia, with large cells.

I called attention to the fact (*loc. cit.*) that in this case the lymph sinuses were full of fat droplet cells and of other phagocytic elements loaded with necrotic products. This indicates that a great quantity of material absorbed from the diseased region of the vaginal portion was transported into the lymph glands and deposited therein, and yet there was no trace of carcinoma. Whether the epithelial ducts in this case are remnants of the Wolffian body, or, as seems probable in the light of the recent researches recorded above, the result of a chronic irritation of the glands, the fact remains that the glands, though enlarged, were not carcinomatous, nor were they likely to become so. Their ablation, in any given case, would unnecessarily prolong the

operation and considerably reduce the chances of the patient to survive the operation. The pendulum seems to swing to where it started; the future of our successful interference with cancer of the uterus lies not in extension of the operation beyond all limits, but in early diagnosis and early though less radical operation.

THE MEDICINE-DROPPER.

By A. S. BLEYER, M.D., St. Louis.

The evolution of this little instrument dates back to 1818, when a flacon was introduced in France which was constructed with a narrowing neck, which served to retard the outflow of the liquid which arrived at the mouth of the bottle by gently inclining it toward a horizontal.

In 1866 an instrument was introduced which would give issue to exactly 20 drops of such size, at a temperature of 15°C., that they would weigh just 1 gramme.

In 1884 the French pharmacopeia described the medicine dropper as an instrument consisting of a glass tube terminating in a finer capillary tube, which would restrict the evacuation of the contained liquid to a drop by drop issue, acting because of its own weight—and no vacuum.

At the recent conference at Bruxelles for the International Unification of Medical Formulæ, Guon presented a modification of the last mentioned instrument, which is now used with a rubber bulb attachment, so as to hasten, retard or arrest the outflow of drops. The diameter of the opening of the capillary tube must measure just 3 millimeters. At a temperature of 15°C., 20 drops will weigh 1 gramme.

This instrument has been adopted by the congress.—*Gaz. Med. de Paris*, June 27, 1903.

GASTRIC ULCER.

By E. A. BABLER, M.D., St. Louis.

Boas (*Deutsch. Med. Woch.*, No. 47) repeats his assertion that the presence of minute quantities of blood in the stomach contents or feces is of as much importance as a diagnostic sign of some ulcerative

lesion in the stomach mucosa, as pronounced hematemesis or melena—in fact it may simply precede these latter. By detecting the presence of the blood we are often able to clear a doubtful diagnosis long before any physical signs of a tumor are present. Due attention must be paid to the familiar sensitive point in the epigastrium and the painful point in the back, near the left, twelfth dorsal vertebra, of which Boas makes special mention. Every precaution must be taken to exclude raw or partly cooked blood from the diet for two days previous to the testing for the presence of blood in the feces, and the stools must be soft. Bleeding gums, menstruation, hemorrhoids and similar conditions must be carefully excluded. Pains in the stomach are generally complained of previous to the occurrence of blood in the stools, especially if the patient is not on a strict "ulcer diet."

By restricting the patient to a strict milk diet for several days, he usually found it impossible to detect blood in the feces. When the blood persisted, even though the patient was on a strict milk diet, it was generally considered indicative of carcinoma developing on the basis of an ulcer. These blood findings may vary from day to day, hence repeated investigation is necessary. Boas holds that these occult bleedings require the same critical judgment as more copious hemorrhages, and are very valuable from a therapeutic point, since by their aid we are able to determine the result of treatment, and ascertain the value of bismuth, silver, etc.

He believes that the softer consistency of the milk may have much to do with the healing of ulcerative processes in the stomach, but further studies are necessary. In 25 cases his presumptive diagnosis of ulcer has been confirmed by these occult blood findings. By the latter we can determine what diet and treatment are best suited to each individual case and the duration of treatment.

Boas deems it impossible to treat an ulcer subject as an out-door patient. He has found it simpler to detect this occult blood in the feces than in the stomach contents, since slight erosion of the mucosa may be produced by the introduction of the stomach tube. He considers the guaiacum test the most delicate, the technic of which is as follows: To 1 to 5 gm. of softened feces add 20 c.c. of ether, thus removing fats and preventing formations of emulsions at a later stage. Add 3 to 5 c.c. glacial acetic acid to the feces and the whole is then poured into a test tube and extracted again with

ether. Alcohol disturbs the test. A few grains of finely powdered guaiacum resin are added to the ether extract, the whole carefully shaken, and then 20 to 30 drops of turpentine are added. Shake thoroughly and set aside. The color gradually changes to a violet or blue. Chloroform renders it more intense.

In some cases the blue tint is masked by the brownish color of the fluid, and the findings of the test may be controlled by repeating it with Klunge's aloin test. About 3 grains of aloin are shaken up with 3 to 5 c.c. of 60 to 70 per cent alcohol. After adding 20 to 30 drops of turpentine to the acetic acid and ether extracts, obtained as above described, he immediately adds 10 to 15 drops of the aloin solution—freshly prepared. If blood is present the color changes to a bright red, then turns to a durable cherry red. If no blood is present the fluid remains yellow for an hour or so, then becomes a light pink. Chloroform hastens the reaction.

Boas considers the aloin test of great value, since it is not affected by fats or fatty acids. Both tests may be modified by substituting hydrogen dioxid for the oil of turpentine. Boas advises that both tests be used in every case.

TREATMENT OF PSORIASIS.

The treatment of this skin affection, whose causation is obscure, receives much attention and new beneficial remedies are found almost daily. It has been proposed to use hydroxylamin as a local application in place of those commonly employed, *e.g.*, chrysarobin or pyrogallie acid. Phillips, however, argues very forcibly against its use. (*Brit. Med. Jour.*, March 7.) He finds that this drug has no advantage over the others mentioned; and while it does not discolor the skin, it is much more toxic and may cause hematuria.

Thyroid extract is being extensively tried for the cure of this affection. According to Freeman (*Edinburgh Med. Jour.*, April, 1903) it is the best internal remedy in those cases which are characterized by chronicity and extensive scaling. Longbrotham has recently reported a chronic case in a man 70 years of age, which rapidly disappeared under the thyroid treatment. Freeman holds that arsenic is the best remedy in weak patients, whether old or young. In acute cases absolute rest in bed is almost specific. The best local

application is chrysarobin. Wishart used with great success a mixture of tincture of iodine and carbolic acid in boric acid ointment.

Freeman insists that each case presents peculiarities of its own which may yield to some special treatment.

PROBLEMS CONCERNING CONGENITAL SYPHILIS.

We have been taught for many decades that hereditary syphilis may have its origin in either parent, the relative infectivity being greater in the mother—that is, the mother being syphilitic, the child is more likely to be infected than when the father only has the disease. And this dictum was substantiated by a large number of clinical cases—the observation and authority of the ages. Certain peculiarities of the disease were noticed, one that the mother of a syphilitic child, though perfectly free from symptoms, does not contract the disease from her baby. This was known as Colles' law. Another law was given by Profeta: A child born of a syphilitic mother, though free from syphilitic symptoms, can not acquire the disease, until, as a result of growth, the whole body is renewed. It is really Colles' law transferred to the child.

Many ingenious theories have been promulgated to explain the occurrence of these facts, and the theories of intoxication and immunity have been searched to find analogies by which these laws may receive elucidation. It was suggested that in all cases where a syphilitic child is born, the mother has latent syphilis. Others explained the immunity of the mother on the ground that the active syphilis in the fetus caused an intoxication of the mother, and in this way the production of an immunity, while at the same time the micro-organism of syphilis did not enter the blood of the mother.

Both of these laws have been attacked by clinicians. An apparent exception to the laws have been reported, but in the case of Colles' law the exceptions cited do not bear the brunt of criticisms.

Recently Glück (*Wein. Med. Woch.*, 1902) reported a case which clearly seemed an exception to Profeta's law, in that a baby of three months, born of a syphilitic mother, apparently acquired syphilis from a syphilitic mammary lesion of the mother. Von Düring (*Berliner Klin. Woch.*, 1903) has also attacked the validity of this law, and argues that no immunity exists in those born of syphilitic parents, only a weakening of the original virus.

The study of hereditary syphilis has received a new interest in the radical statements made by Metzenauer (*Wien. Klin. Woch.*, 1903), who lays down a new formula: "Without syphilis in the mother there is no hereditary syphilis." He denies that the syphilitic virus is ever transmitted from the father to the offspring, and thus opposes the experience of the ages. This would also render the observations of Joseph and Piorkowski on the occurrence of the bacillus of syphilis in the semen as improbable.

Metzenauer tries to explain the apparent exceptions to his dictum by the occurrence of latent syphilis, alternating heredity, etc. He declares the Colles' law corroborates his dictum in that the mother's immunity is merely an expression of her syphilitic infection. He denies the correctness of Profeta's law, stating that no immunity is inherited from syphilitic parents.

The radical statements of Metzenauer have been opposed by the leading clinicians of Vienna.

There is no disposition as yet to discard the old theory of the infective power of the semen. At any rate the subject will be studied with renewed interest.

EDITORIAL COMMENT.

The Glycolytic Ferment in the Tissues.

On theoretical grounds, Lepine and others have for many years asserted that a glycolytic ferment must be present in the blood or tissues which takes the place of heat in the oxidation of sugar. While the presence of such a ferment seemed plausible, and to some seemed indispensable, the earlier researches to determine its presence ended in futile efforts. Attention then was again laid upon the pancreas and it was suggested that this organ secreted a glycolytic ferment which passes directly into the blood; but this enzyme also was not demonstrable.

Cohnheim has recently thrown some light on the subject which apparently explains some of the contradictions formerly encountered. This author found a ferment in the muscles which is inert unless activated by a second substance coming from the pancreas. Its action is compared to that of enterokinase on trypsin, the latter having very

little protolytic power unless mixed with the former. It is the pancreatic kinase which makes the muscle ferment active, and this in turn splits up the glucose or glycogen in the production of heat.

Rigor Mortis.

The common theory that rigor mortis is due to the coagulation of myosin is questioned by Folin (*Am. Jour. Phys.*, August, 1903). He states that one of the principal objections to this theory of Kuhne is that the rigor mortis is only a temporary condition. Halleburton, however, contended that the coagulated myosin is redissolved by an enzyme present in the muscle. Folin's experiments go far to prove that no such coagulation takes place. Several authorities have advocated the theory that rigor mortis is analogous to the ordinary firm contractions of the muscles; but on what this contraction really depends does not seem very clear as yet.

Chorea.

Dr. Lees, before the British Medical Association, gave an interesting summary of our knowledge of chorea. He regards almost every case as rheumatic, that is depending on the same micro-organism which is the cause of rheumatism; hence, he treats acute chorea by large doses of sodium salicylate and sodium bicarbonate.

Probably, the author is premature in enunciating the identity of rheumatism and chorea, and the salicylates have been tried by many practitioners without any special result. The inadequacy of the salicylates in preventing valvular lesions in rheumatism would support the presumption that nervous lesions could not be prevented, even granting the theory that chorea is rheumatic.

Funds for Research.

A gratifying incident of the present age is the gradual appreciation of scientific research in the minds of wealthy men. As a result, instead of giving millions for parks and monuments, a liberality undreamed of a decade ago has been shown by several millionaires. An example is the Rockefeller Institute, which has already done much

work, especially in investigating summer diarrheas in infants. Not long ago a large fund was provided for cancer research. The Huntington Fund provides for work particularly on chemical lines for the elucidation of the cancer problem.

Tetanus and Vaccin.

Several investigators have reported on special inquiries relating to the source of tetanus following vaccination which, unfortunately, occasionally occurs in spite of aseptic precautions. It will be recalled that two years ago quite an epidemic of tetanus followed the wholesale vaccination. A very interesting investigation on this question was made in New York by Huddleston (*Medicine*, December, 1903). He concluded that either dry or glycerinated virus may convey the tetanus bacillus when inoculated, and insists that the best prophylactic is in rigid cleanliness of the methods in use in the stable. Altogether the problem of absolutely excluding tetanus from vaccin is not yet solved.

Pneumonia.

Nothing new—that is about the summary of the year's progress, and yet it is the most terrible disease of mankind not excluding tuberculosis. A recent bulletin of the Chicago Health Department recalls the sad fact that more people die of pneumonia than consumption and deplures that immense sums are paid in the fight against tuberculosis and yet little is done to check the ravages of pneumonia.

No new effective treatment has been offered and the mortality this season is as high as ever.

The Death-Rate of Diphtheria.

We have shown in a recent article (*Medical News*, December 5, 1903) that the mortality of diphtheria in private practice should not exceed 2 or 3 per cent, yet several reports taken from general records still give the death-rate at more than 10 per cent. With such an efficient remedy as antitoxin this should be improved. Billings report from the city of New York very well demonstrates the curative value of antitoxin, and it is wonderful how few opponents have ap-

peared during the last year. Gradually, even the most skeptical are silenced. This can not be said of any other treatment.

Scarlet Fever.

We have previously discussed the arguments which have been brought out to prove the bacterial origin of scarlet fever. While several observers have isolated cocci, the evidence of their specific relationship to the disease was inconclusive. A press report announces that Dr. Mallory, of Boston, has discovered a protozoon in the lesions of scarlet fever which he regards as etiologically related to the disease. A corroboration of this finding would make this one of the most important discoveries of the past year.

Acute Tuberculous Rheumatism.

Editorially, *American Medicine* comments on the diagnosis of acute tuberculous rheumatism. Why should a disease be designated by two terms that are totally distinct as to their etiology and pathology? A better name would be acute tuberculous pseudorheumatism or simply arthritis. The disease is said to be similar in its manifestations to the acute form of rheumatism but the pain on pressure is in the bone and not in the periarticular structures as in rheumatism. The tuberculous form does not yield to the administration of salicylates and is apt to lead to ankylosis.

Raw Kidneys to Eat in Acute Nephritis.

An interesting contribution to the subject of opotherapy has recently been made by Cassaet (*Gaz. Heb.; Med. Rec.*) who fed raw kidneys to a patient suffering from renal suppuration following lithiasis. The case seemed entirely hopeless and yet under this treatment the patient made an excellent recovery after several weeks. This feeding caused no symptoms of intoxication, and was well borne.

But the experiment is by no means conclusive and it is very doubtful that the nutrition of the kidney can be influenced by feeding raw kidneys.

Bread and Fruit Diet.

A. Haig still adheres to the old theory that uric acid is responsible for half of the human ills, but in practical points he can always be regarded as reliable. In the *Med. Rec.*, October, 1903, he writes interestingly on the bread and fruit diet. This diet, which consists of 21 ounces of bread-stuffs and 7 ounces of dried fruits a day, he recommends especially in those diseases which are accompanied by a high blood pressure, *e.g.*, headache, Bright's disease, epilepsy, angina, dropsy, obesity, etc. A diet of milk in these diseases, because it contains an excess of fluid, does not lower the blood pressure. A bread and fruit diet lowers the blood pressure more than the Tuffnell method; besides this, it aids in the excretion of uric acid.

This reminds us of the theory put forth by several writers that man is built to eat fruit (fructivorous), and in all abnormal conditions a fruit diet will be serviceable. In a work by Louis Kuhne, a German healer, this law is made the basis of a general therapy. His sick diets consist of vegetables, cereals and fruits. Especially does he emphasize the necessity of maintaining a strict fruit diet in certain diseases. In an early number we shall review some of the remarkable tenets of this "healer," quack though he may have been.

The American Association for the Advancement of Science.

This National Society met in St. Louis during the last week in December, and was largely attended. The papers presented were of a high order although nothing definitely new was announced. Radium received much consideration.

What was very noticeable and has been repeatedly mentioned was the fact that the medical profession of St. Louis was almost entirely ignored in selecting members of committees. Probably, this was merely an oversight, but it, no doubt, caused a lessened interest of the medical profession in the daily proceedings.

The medical men are always interested in all scientific research, and the National Society, wherever its place of meeting, will do well to give physicians a part in the management of the local affairs which concern arrangements for entertainment.

The Dwarf Tapeworm.

Stiles has recently called attention to the existence of a dwarf tapeworm, *Hymenolepis nana*, which measures from one-fifth to two inches in length, and which has been discovered in the feces of sixteen persons out of 3500 patients examined for intestinal parasites. Moore, before the Texas Medical Association, read a paper on this subject. It seems that this parasite is common in certain parts of the country, and really deserves looking for in certain obscure intestinal symptoms. The symptomatology does not differ from those produced by the larger parasite, and the treatment is the same.

The Size of the Stomach and Migraine.

That the subject of semiology is by no means exhausted is well illustrated by the observations of Mangelsdorf (*Berliner Klin. Woch.*, November 2, 1903), who demonstrated that attacks of migraine are almost constantly accompanied by a marked dilatation of the stomach. In an examination of over 400 cases this phenomenon was absent only once. After the attack the stomach diminishes in size. This writer found a similar condition in attacks of epilepsy. It is probably true, as he suggests, that this enlargement is only secondary and has no etiological connection with the migrainous attacks.

MEDICAL RESEARCH.

Review of Progress in Physiology, Physiological Chemistry, and Experimental Medicine.

In Charge of A. S. BLEYER, M.D.

The Pancreas.

Opie's new physiologic description of this organ is an efficient one. He divides the pancreas into two functional portions—the one made up of the cells which supply the intestine with important digestive ferments, and the other made up of cells having no communication with the ducts of the gland, bearing their only relation with the blood vessels.

As to the physiologic intimacy between the pancreas and the liver it might, in a measure, be explained anatomically, because of the mechanical contiguity of the bile duct to the pancreas and the pancreatic duct.

There seems unquestionably to be as well, a close physiologic relation to the stomach as well as liver. Stockton points out that many physiologists have come to recognize the stomach secretion as the normal stimulus to the secretion of pancreatic juice. This was more broadly referred to when mention was made of secretin (see January, 1904, number).

There is endless speculation on the rôle of the pancreas in the elaboration of sugar. It is undoubted that the healthy pancreas has a very great functional activity here, but there is no surprise called for, however, when, as De Domenicis observes, that sugar destruction and elaboration can occur independently of the pancreas, since glycolysis occurs in practically every tissue of the body, and notably in the veins.—Lepine and Boulud.

The bearing of the pancreas on the health of the nervous tissues was pointed out by De Domenicis.

Luthje adds the observation that the slightest addition of albumin to the diet of an animal whose pancreas has been removed is followed immediately by the appearance of sugar in the urine. This fact verifies the glycolytic power of other tissues than the pancreas.

There have been several verifications that, as was early assumed, pancreatic glycosuria is dependent upon disturbance of the islands of Langerhans. In such condition fat-splitting ferment is often found in the urine.

The vital rôle of the pancreas in the universal metabolism of tissues is receiving the closest scrutiny, but conclusions are as yet difficult to draw.

The Thyroid Gland.

There is not much to be found in the literature that is new on the thyroid. Specific thyrotoxin is not yet a fact, although certain very effective cytolytins have been obtained from the gland and from the parathyroids.

That thyroidin exists in an active state in the blood has been demonstrated by MacCallum by relieving the symptoms of athyroidism by injections of the blood of a normal dog. This observer believes

that the physiologic purpose of the thyroid is quite separate from that of the parathyroids; this has been assumed by others some time before MacCallum's work.

The Adrenals.

The therapeutic usefulness of the suprarenals has received most attention during the past year, and Vassale's paraganglin has developed a point in their physiology. This consists in the fact that the medullary portion of these bodies possess properties that differ considerably from the active principle and extractives. The experiments of Baccarani and Plessi have established this point. The action of paraganglin seems to be most directly on the musculature of the alimentary tract, although it possesses the characteristic sthenic properties of the other adrenal derivatives.

Mulon's experiments have been the most interesting of the year. He describes a stratum germinativum composed of the glomerular layers which lie at the periphery of the gland. The cells produced here migrate toward the medullary areas, during which time they undergo many changes. They are found in the reticular layers of the central portion as pigmented, nucleated cells, and it is observed that many of them are at this point dislodged into the blood circulation, this is an explanation of one manner of excretion of the products of these glands.

The Gastroenteric Tract.

The dignity of this subject is epitomized in the recent startling statement from Einhorn that there are no primary pathologic lesions of the gastric mucosa. Secretory disturbances alone are held accountable for all histologic changes, so that it behooves well the physiologist to clear the muted questions on which all else depends.

The origin of succus gastricus, for example, is still unknown, although the views of Koeppe are no longer held hypothetically, physiologists are inclined to regard most of the chemical combinations—acids, bases and salts found here as food derivatives and not as secretory products. Hydrochloric acid is most probably not a secretion product, although it is conceded that it is produced through the agency of the peptic cells.

The stomach should be made no exception to the fact that every tissue in the body secretes proteid-digesting enzymes; it alone pos-

sesses the facility needed for their elaboration and adaptation, the rest of its complex contents are of extraneous origin. Be this understood, furthermore, to account in a measure for the fact that autodigestion is not a possibility. Delezenne's observation that fresh blood serum will check enterokinase will bear quotation in this connection, for by themselves all living tissues, leucocytes, bacteria, venom, even, will destroy proteolytic ferments and render them inactive. That the stomach does not digest its walls is no more remarkable than that muscle or nerve tissues remain unaffected by enzymes as powerful as those produced by the peptic cells lying within their stroma.

The secretion of the proteolytic enzymes has received well-merited attention. Many valuable suggestions have been made. Foremost among these is the work of Bayliss and Starling, who observed the fact that when infusions of the secreting mucosa of the stomach and intestine were injected into the circulation that there occurred an immediate augmentation in the secretion of the digestive juices. This could occur, they pointed out, in but one way, namely, that the gastroenteric mucosa must be possessed of some special substance which is capable of actuating the outpouring of the digestive ferments. To this substance they gave the name "Prosecretine," and they traced its spontaneous appearance to the dynamic force of ingested food particles. Prosecretine is, then, secondarily the source of "secretine," which by way of the blood current (Bayliss and Starling) or by way of reflex nervous mechanism (Popelsky) excites the outflow of enzymes.

Fleige believes that it acts only through stimulation of the pancreas. The real source of secretine is hardly settled, although an eminent French authority disclaims the possibility of any other origin than the intestinal mucosa; this, in truth, seems most plausible, for the following reasons: It does not come from food-stuffs, since prosecretine is found in the fetal intestinal mucosa. It does not come from the stomach, since it is destroyed by the peptic ferments. Bile contains none of it, but in animals carrying biliary fistulæ the liver is found to be rich in it.

The second important note on this point is that of Doyen, who finds that injections of peptone produce a decided outflow of bile; and the observations of Gley and Roux, with whom peptone administered hypodermatically was found to have the power of setting up physiologic contraction-waves of the stomach and intestine.

A third suggestion is that of Simnitsky, who finds that if bile is retained in the body that it will produce a violent hyperacidity in the stomach. This view is amply supported by the observations of Riedel who claims that 97 per cent of gastralgic cases are associated with gall stones, and that by Kaufmann, who considers hyperacidity a most frequent accompaniment of the formation and existence of gall stones.

Another matter of growing interest are the cytotoxins, *i.e.*, those substances possessed by the chief tissue groups and, notably, by the digestive tissues, which will destroy like tissue except where individual immunity obtains. Flexner's hemorrhagin exemplifies the group—a substance derived from the endothelium of the capillaries capable of dissolving them in another animal.

Gastrotoxin (Babés and Théohari) has recently been isolated, and is found to produce, when injected into animals, violent hemorrhages of the gastric mucosa. This simple statement suggests the necessity for further research into the antitoxic protective internal secretions of the digestive cells, and a further elaboration of their cytolytic actions.

The mechanics of digestion have received much attention, chiefly through the use of the radioscope. The experiments have been conducted variously, different dense bodies being incorporated with food-stuffs, so that the passage of these could be more carefully watched. Lommel used bismuth with good purpose; the results of his work lie chiefly in the fact that he observed the completely inhibiting effect of the emotions on gastric and intestinal peristalsis. In the healthy animal, the stomach can be made to remain absolutely inactive for two and three hours under the influence of fear or anger, after the ingestion of food. He found, furthermore, a distinct periodicity between the emptying of the stomach and the peristaltic movements of the intestines.

Sicard and Infroit made similar tests, using a capsule of bismuth covered thickly with collodion. They found that the time required for its passage from mouth to cecum was eight hours, and that in the small intestine its average speed was 25 centimeters in 15 minutes. After remaining in the cecum for four or five hours it ascended the great colon, averaging from two to four hours for each segment. It remained in the sigmoid flexure for a period of from twenty to twenty-four hours.

DIAGNOSTICS.

In Charge of W. L. JOHNSON, M.D.

Diagnostic Value of Palpatory Percussion.

Twanoff (*Russki Vrach, Archives Ped.*, November, 1903) says that the difficulties besetting ordinary percussion in struggling and screaming children are well known.

They can be largely obviated, according to the author, by employing palpatory percussion, which consists in percussing so lightly as to produce no audible sound.

While the ear thus perceives nothing, the peripheral nerve termination of the fingers distinctly differentiate the sensations obtained and allow us to map out the underlying organs even more exactly than by means of common percussion.

In a series of ingenious experiments the author conclusively demonstrates the ability of the skin to perceive vibrations and even to differentiate their force, pitch, volume and the character of their combinations. Physicians in general, and particularly those practicing among children, will find it much to their advantage to cultivate this skin sense.

The Diagnosis of Myocardial Degeneration.

Hutchison (*So. Calif. Pract.*, October, 1903) says there are no special characteristic symptoms to distinguish the fatty degenerated heart. They are those of a progressive and persistent weakened and defective cardiac power, as shown by the inefficient and often irregular action of the heart, the small, rapid or slow, often irregular, or intermittent low tension pulse.

Sometimes precordial distress or anginoid pain, shortness of breath or dyspnea on slight exertion, cold extremities, feeble digestion, usually an unhealthy, sallow or dirty complexion, the general system poorly nourished and weak, bronchitic cough, hypostatic congestion of internal organs and edema of extremities; sleep is usually poor.

There may be cerebral anemia with attacks of vertigo or pseudo-apoplectic seizures and loss of mental power, and in final stage Cheyne-Stokes respiration. The yellow fatty arcus of the cornea may be present, or fatty degenerative changes of other organs and muscular structures, as the diaphragm.

The physical signs of the heart are in accord with the symptoms. Previous to stage of dilatation it may seem smaller than normal; when this takes place the area of dullness is increased laterally and upward rather than downward, excepting when the condition succeeds to that of hypertrophy.

Apex beat and impulse are diffuse or very indistinct or imperceptible to eye and touch. The sounds of heart are weak and muffled, often resembling one another. At the apex sometimes a soft systolic murmur due to muscular incompetency, which may disappear altogether with increasing muscular weakness. The patients are usually thin and illy-nourished, in marked contrast to those of fatty infiltration. In their earlier stages they are specially liable and susceptible to trivial affections which frequently terminate fatally.

The fibroid heart, sclerotic or chronic myocarditis is that form of cardiac degeneration characterized by an interstitial growth (comparable to cirrhosis of other organs), in which the muscular tissues are substituted by fibrous connective tissue; the muscular element being wasted or in parts almost entirely destroyed.

The Differential Diagnosis Between Friedrich's Disease and Insular Sclerosis.

F. Savary Pearce (*N. Y. and Phil. Med. Jour.*, October 24, 1903) notes two forms of family ataxia:

Friedrich's Form.	Marie's Form.
1. Occurs before puberty.	Occurs after puberty.
2. Choreiform movements seen, affecting head, arm and trunk.	Choreiform movements are <i>very</i> pronounced.
3. Optic atrophy exceptional.	Optic atrophy is common.
4. Tendon reflexes diminished or abolished.	Increased reflexes and clonus frequent.
5. Club foot and scoliosis common.	Club foot and scoliosis are exceptional.

It is the later described Marie type of Friedrich's disease that may be confused with insular sclerosis.

In the anamnesis it is particularly of importance to determine if there is an alcoholic or degenerative tendency in the progenitors.

This is not so likely to be the case in insular sclerosis.

As to progression of Friedrich's disease, usually the jerky or

reeling gait for the first three or four years becomes more prominent from month to month; while three or four years more the patient is likely to become chair ridden or indeed helpless. It is exceptional for long remissions to occur, and sudden exacerbations are usual.

In insular sclerosis remissions are common; there is distinct intention tremor of the tongue and hands, the speech disturbance of a scanning type, due to involvement of the bulb.

In Friedrich's disease the speech is *syllabic* or ataxic, rather than scanning or bulbar; and movements of the extremities are larger in excursion, rather than those of the intention tremor of insular sclerosis.

The family history is helpful.

The Value of Albuminuria in Differentiating Pyelitis from Cystitis.

Brown (*N. Y. Med. Jour.*, October 17, 1903) says that during the past three years we have been examining with great care the urine in all cases of infection of the urinary tract, whether of bladder, ureter, or kidney; and from these observations we have definitely concluded that pyuria, due to a cystitis, even if of high grade, is associated with but a small amount of albumin if the urine is examined immediately after catheterization, if the pyuria is not accompanied by hematuria. On the other hand, in all cases of pyelitis, even if the grade of pyuria is low, there is always, or at least almost always, a considerable quantity of albumin present. In some cases, of course, the presence of casts and epithelial cells from the renal pelvis may help us in arriving at a correct diagnosis, but in the vast majority of cases no help can be derived from the microscopical examination, and we must depend largely upon other means for arriving at a correct diagnosis. In the determination of the relationship between the grades of pyuria and albuminuria there is, as we have said before, a ready and simple means of differentiating pyelitis and cystitis.

Determining Specific Gravity of Small Volumes of Urine.

Saxe (*Ibid.*) has devised a urino-pyknometer (made by Eimer & Amend) in which a very small quantity of urine is placed in the instrument and specific gravity read off by floating it in any cylinder, as Squibbs, in which is 2 ounces of distilled water.

In the instrument he simply puts the urine in the hydrometer, instead of the hydrometer in the urine.

Premonitory Symptoms of Cardiac Weakness in Diphtheria.

It stands to reason that we are in a better position to combat grave weakness of the heart if we have some warning of its approach. Bontin (*Thèse de Paris*, 1903; *Berliner Klinische Wochenschrift*, September 28) thinks that in diphtheria vomiting and loss of appetite constitute such a warning.—*Ibid.*

Eye Changes in Renal Disease.

Netteship (*Ibid.*) states that while albuminuric retinitis commonly occurs in chronic interstitial and parenchymatous nephritis, yet it has also been observed in lardaceous disease. About twice as many cases occur in men as in women; the age varies from 30 to 60 years, the most prolific single decade being from 50 to 59 years. Pregnancy cases, the prognosis of which is more favorable, occur mostly between the ages of 30 and 39 years. The two chief factors in the production of renal retinitis are:

1. A morbid state of the blood; and
2. A diseased condition of the renal arteries, and in most cases the two are combined.

An early stage of granular kidney may fairly be suspected whenever decided hyaline thickening of the retinal arteries is seen by the ophthalmoscope. This is especially true if the patient is comparatively young. The typical renal retinitis is nearly always symmetrical; occasionally when hemorrhage is the chief sign, only one eye is affected. There is reason to think that the retina atrophied by previous disease does not take on the changes constituting renal retinitis. Retinitis may occur in diabetes without albuminuria. Occasionally pigmentation of the retina and night blindness, or iritis, are present.

Meningeal Symptoms Occurring During the Course of Gastroenteritis in Children.

When symptoms pointing to a lesion of the meninges occur during gastrointestinal attacks, observes A. Ausset (*Med. Record*, July 18, 1903) it is of the utmost importance that we should be able to tell whether or not meningitis is really present. In his opinion, simple convulsions, not followed by special meningeal symptoms, are usually, if not always, due to some irritation of the meninges of more or less severity; the child may later be attacked by encephalitis, cerebral sclerosis, hydrocephalus, etc., definite lesions which prove that the con-

vulsion was the sign of some grave change in the nerve centers. Diagnosis of the true state of things is, however, extremely difficult, nor can lumbar puncture be relied upon to give us absolute information. Kernig's symptom is almost always present and gives valuable indications. Occular troubles are of great diagnostic importance, but they do not occur when there is merely hyperemia, congestion of the meninges. Still a maximum contracture of the pupils is a frequent sign. As regards treatment, lumbar puncture may be of use in allaying pains, in diminishing hydrocephalus when it is present, and in assisting in the diagnosis. It must, however, be done under the strictest antiseptic precautions, and not to be resorted to unless clearly indicated, nor repeated too often.—*L'Union Médicale du Canada*, June, 1903.

A New Test for Bile in the Urine.

Since the usual bile-tests have proven very unreliable in the hands of A. Jolles (*Deutsch. Arch. f. Klin. Med.*, Vol. xviii, Nos. 1 and 2; *Med. News*, 1903), the following one is recommended: Ten cubic centimeters of urine are mixed in a test-tube with 2 to 3 c. cm. of chloroform and 1 c. cm. of a 10-per-cent. solution of barium chlorid. The mixture is then centrifuged, the fluid above the chloroform and precipitate poured off, and the tube filled with distilled water, shaken and centrifuged a second time. In case of dark-colored urines, this is repeated a third time. After the water is decanted, the chloroform and precipitate are shaken with 5 centimeters of alcohol, and then 2 to 3 drops added to an iodine solution, which is prepared as follows: 0.63 gm. of iodine and 0.75 gm. of corrosive sublimate are each dissolved separately in 125 c. cm. of alcohol, poured together, and then 230 c. cm. of pure hydrochloric acid added. In the presence of even faint traces of bile, a distinct green color is obtained. The reaction can be hastened by placing the test tube into hot water for a few minutes. Indican or hemoglobin do not interfere with the reaction. The presence of one-tenth milligram of bilirubin in 100 c. cm. of urine still gives a positive reaction.

THERAPEUTICS.

In Charge of PHILIP NEWCOMB, M.D.

Sialagogues in Dyspepsia.

W. G. A. Robertson (*Med. Record*, Vol. lxiv, No. 6) states that in conditions of amylaceous indigestion much benefit is obtainable by the slow mastication of starchy foods, thus increasing the flow of saliva; and moreover in aggravated cases the patient should be instructed to chew slowly some one of the vegetable agents which possesses sialagogic powers.

Again, by increasing the flow of saliva in cases of hyperchlorhydria, it may be possible to secure the digestion of the amylaceous constituent of the meal before the excess acid has had opportunity to retard the amylolytic process.

Another cause of impaired digestion may be a deficiency of hydrochloric acid and pepsin in the gastric juice and the introduction of saliva into the stomach under such conditions excites a more copious and a more potent secretion, and hence the greater amount of saliva received by the stomach the more gastric secretion results.

In many such instances as described, Robertson has found that a stimulation of the salivary secretion by means of vegetable sialagogues, such as ginger, gentian, cusparia, peppercorns and the like, has resulted most beneficially. Bitter agents also have a beneficent effect upon the gastric mucous membrane, and some other sialagogues are at the same time carminatives, notably pimenta, ginger and pepper, and thus a double therapeutic action may be obtained from the same drug.

Alcohol and Diet in Kidney Diseases.

The absolute contraindication of alcohol in all forms of nephritis—acute, subacute or chronic—has been accepted without question, and the consensus of opinion has been that alcohol was one of the worst poisons for the kidneys and acted as a direct irritant.

Von Noorden (quoted *Merck's Archives*, Vol. v, No. 8) wishes this view modified, and finds even in acute and chronic nephritis some indications for the use of this agent. In attacks of cardiac weakness

in such patients, with a small thready pulse, he finds that alcohol in small doses, frequently repeated in concentrated form, acts so well and so promptly that all objections to its use may be overlooked. Moreover, in some nephritic patients the gastric functions are decidedly improved by the administration of small quantities of wine or diluted brandy, which stimulate the appetite and relieve the nausea which often materially interferes with the patient's nutrition. He has never witnessed any harmful results from the careful use of alcohol in either acute or sub-chronic nephritis when used in accordance with the indications. In addition he calls attention to the fact that kefir and kumiss are highly recommended and yield excellent results in the convalescent stage of acute nephritis and in the sub-chronic variety. These beverages contain an average of 2.2 per cent of C_2H_5OH and are customarily given in large quantities; 3 to 4 quarts a day as administered, yielding an alcoholic equivalent of 3 to 4 ounces of cognac, a quart of Rhine or Burgundy wine, or 3 to 4 pints of beer. Von Noorden points the paradox in the opinion that this amount of alcohol in these latter forms is considered most injurious to the nephritic, while in kefir or kumiss it is esteemed beneficial.

The same observer has wrought a change in the general opinion concerning a rigid milk diet and the customary exclusion of dark meats in nephritis. Lately he has declared (*Brit. Med. Jour.*, November 1, 1902) that the kidneys make no distinction between the albumins of meat, fish, eggs, milk and vegetables, and, furthermore, that the difference in extractives contained in white and red meat is too trifling to deserve the attention hitherto given the subject. Animal tissues, rich in nucleins, are not to be permitted, however, for the reason that uric acid may not always be of ready elimination.

In patients with granular kidney, Von Noorden says that when the albuminoid substances of the diet are slowly increased, it is found that quantities of nitrogen up to 15 grammes per 70 kilograms of body weight are assimilated with ease. However, when the amount of nitrogen to be excreted daily exceeds 15 per cent, then the elimination becomes irregular and uncertain. Contrary to the usual custom he restricts the amount of fluid taken by the patient, allowing not more than 3 pints of water in the twenty-four hours, since by inundating the vascular system with water one increases the work of the heart.

These patients should have plenty of nourishing food, but on no

account should be overfed, and whenever reduction of weight must be accomplished, this must be effected most cautiously. Finally, he considers Carlsbad cures utterly unsuitable.

Kuschnir (*St. Petersburg Med. Woch.*, March 29, 1903) finds an advantage in white meat over dark for the diet of nephritics, although he admits that the reason for this is not determined. His results have also led to the opinion that milk certainly exercises a good influence upon the course of a nephritis, since it is unirritating, easy of absorption, and a good diuretic, favoring the disappearance of edemas and at the same time the excretion of injurious nitrogenous substances retained in the body, such as uric acid and extractive products. A mixed diet is desirable even in nephritis he thinks, since an exclusive milk diet is distasteful and often leads to great loss of nitrogen through the stools and thus disturbs nutrition. Especially in chronic nephritis, therefore, it is best to give the patient meat which, through the large percentage of albumin contained, compensates for the loss of albumin which is the result of the disease.

Hare (*Therap. Gaz.*, Vol. xxvii, No. 8) calls attention to the fact that more than ten years ago, in an early edition of his text-book of therapeutics, he emphasized the fact that many cases of nephritis do not do well if compelled to submit chiefly upon a milk diet, and, furthermore, that his position has always been opposed to the custom of ordering milk which has been skimmed for these patients, thereby depriving them of the fat which milk ordinarily contains, and which is entirely harmless, unless present in excessive amount. He also considers the red meats, when taken in moderation, no more harmful than the white meat of chicken, since chemical analysis fails to show a sufficient difference between these two forms of food, proteid in character, to justify the refusal of those articles upon which the patient has learned to rely.

Hare cites the views of A. C. Croftan (*Medicine*, June, 1903) upon the subject, which emphasize the fact that an excessive milk diet may be not only useless, but actually dangerous in Bright's disease. Croftan states that while milk is theoretically capable of maintaining nutrition, practically it is incapable, since such enormous quantities of milk must be consumed to provide an adult with a sufficient amount of nutriment that they are prohibitive, or at least disadvantageous, since the absorption and elimination of these large quantities of fluid

unduly strain the digestive and eliminative organs. Furthermore, milk lacks the quantity of iron contained in ordinary foods and contains an excessive amount of proteid. The normal adult requires approximately 3000 calories a day, and since one quart of milk has a caloric value of about 700, it would take about 4 to 4½ quarts of cows' milk to furnish sufficient nutriment, and this quantity of milk would contain nearly 170 grammes of proteid; whereas, the normal average quantity of proteid ingested by a healthy adult does not exceed 100 grammes per diem. In addition, the kidneys, already of impaired function, are hardly prepared to take care of the large amount of fluid, urea and phosphates which a milk diet furnishes if sufficient in amount to meet the needs of nutrition. Croftan, in accord with Von Noorden's views, also thinks that these large quantities of fluid increase the labor of the heart and stress upon the blood vessels.

It is possible to arrange a diet suitable for cases of nephritis without in any way throwing undue work upon any organs, and yet maintain nutrition. For instance, Croftan says, one liter and a half of milk plus a quarter of a liter of cream contains about 50 grammes of proteid, equal to 225 calories; 75 grammes of carbo-hydrates, equal to 337 calories, and 150 grammes of fat, equal to 1,350 calories—a sum total of 1,912 calories. In order to supply the remainder of 1,088 calories, a small amount of meat, eggs, sugar, butter toast, rice, zwiebach, fresh vegetables, etc., may be allowed, care only being taken that the caloric value of 3,000 be not greatly exceeded, and that articles of diet, such as spices, condiments, etc., which lead to the formation of irritating urinary end products, be carefully excluded.

Epilepsy and the Bromids.

J. W. Wherry (*Amer. Med.*, September 5, 1903) thinks the use of bromids for the prevention of the convulsion in epileptics is a grave mistake. He regards the convulsion as a salutary process, as a conservator of life, standing between an alarming state of autointoxication and possible fatal termination. Without this convulsion the condition would be much more serious, since the convulsion affords relief to the patient, and no attempts for the prevention of the paroxysm should be made, according to his view of the phenomenon.

CORRESPONDENCE.

Formaldehyd in Milk.

ST. LOUIS, MO.,
January 2, 1904. }

Editor COURIER:

A leading article on "Formaldehyd in Milk," in the December, 1903, issue of your journal contains some statements that are not quite plausible "Formaldehyd," you say, "is the least harmless and yet powerful antiseptic." Is not this a slip of the pen?

"Formaldehyd, in a dilution of 1 to 20,000, produces an excessive shedding of the epithelial layer of the intestine." Is there any other competent authority for this? Where formaldehyd, urotropin, cystogen—*et genus omne*, are given internally in large doses, resulting in the presence of quantities of formaldehyd in the urine, no increase of epithelial cells, from the kidneys, ureters, bladder, (tc., is found in the sediment. Saturated solutions of formaldehyd applied externally will cause the skin to peel off. Under the old sheds a firm new layer of epidermis is found, just as salicylic acid would act; but in no instance is any effect upon connective tissue discovered, no scar remains. How then, in connection with the shedding of epithelia in the intestines, connective tissue "may" increase "and thus gradually induce intestinal fibrosis and atrophy of the mucous membrane," ought to be proven. On the other hand, one might say the shedding of old epithelial (diseased) layers, the irritation leading to the formation of new healthy epithelial cells may be beneficial to the individual. But unproven assertions are no arguments.

You argue further, that, whereas, methyl alcohol causes profound nervous degenerations, "what reason have we to doubt that formaldehyd, or methyl alcohol dehydrogenized, may not also produce severe lesions."

Methyl alcohol can be regenerated from formaldehyd by nascent hydrogen; but the conditions for such action in the intestines are most exceptional and it has, *de facto*, so far not been observed even after

large doses had been administered. Formaldehyd quickly combines with albumins and after some time disappears entirely as such, possibly being condensed into sugar (formose). Formaldehyd in milk, in a proportion of 1 to 20,000 means about two-thirds of a grain to the quart. How much methyl alcohol could this represent under any circumstances? There is very much more methyl alcohol present, in a loose combination, in an average dose of oil of wintergreen, without causing nervous derangement.

As to the germicidal action of formaldehyd in the dilution named, my experience and that of authorities, generally, is different from yours. Contradictory results are quite apt to be due to varying experimental conditions.

The alleged dangers from formaldehyd have been disproved by statistics covering many thousands of infants for several years in St. Louis (*vide* Mortality Statistics of our City).

Finally, you insinuate that those who advocate the employment of formaldehyd in milk, under prevailing circumstances, ignore the necessity of cleanliness in the handling of milk. This is utterly unfair.

GEORGE RICHTER, M.D.

[226-7 MERMOD-JACCARD BLD'G.]

[A reply to this will be published in our next issue. — ED.]

Henoch's Purpura.

Hecker (*Centralblatt f. Kinderheilkunde*, September, 1903) reports a typical case of Henoch's purpura. The patient was a boy, aged 9 years, who drank much beer; he became ill with fever and swelling of the right ankle joint. Hemorrhages into the skin and erythematous patches appeared in various parts of the body. The fever disappeared in a few days, but extreme gastroenteric irritation prevailed. Vomiting and intestinal colic was followed by the evacuation of blood in the feces. A violent recurrence of the abdominal pain was relieved by an atropin injection. These attacks recurred for more than two weeks and some additional petechiæ were found several weeks later. Atropin seemed to have done more good than anything else for the violent pains.

REPORTS ON PROGRESS.

MEDICINE.

In Charge of EDMUND A. BABLER, M.D.

Typhoid Fever.

Wood's report of 53 cases (*Merck's Arch*, June, 1903) is very brief and quite incomplete. There were 28 females and 25 males; ages ranged from 8 to 38 years; duration of the disease was quite variable; all recovered.

Acetozone was the drug employed, but time and amount of administration have been omitted. The writer presents the following conclusions as to the value of acetozone in this disease, viz:

1. It acts as a valuable intestinal antiseptic and appears to lessen the tendency to tympanites and diarrhea, especially when it is commenced in the early part of the fastigium and continued until convalescence is well established.
2. Stools appear less offensive, and in most cases color and consistency are not affected by its administration.
3. The drug has no appreciable effect upon the kidneys, and does not seem to act on the heart or respiratory tract.
4. Hyperpyrexia appears but rarely in cases treated with acetozone.
5. Relapses are infrequent when drug is continued until full convalescence is established.

The Treatment of Pulmonary Tuberculosis by Formaldehyd.

Chowry-Muther (*British Med. Jour.*, October 24, 1903) reports the results of treatment of pulmonary tuberculosis by the inhalation of formaldehyd, or creosote vapor, in connection with the open-air treatment. Notwithstanding the use of the latter, he thinks the drug treatment had its effects. He has also tried intravenous injection and considers it also of value. He speaks well of the electric treatment on the Crattle plan. The open air treatment, he says, requires a great sacrifice of time and money, and should be supplemented by some-

thing else. Serum therapy is in its infancy. Special drugs by the mouth are disappointing. Tuberculin has not yet developed. The continued inhalation and vapor treatment by formaldehyd is simple and can be used in all cases. The intravenous injection used with gas should be given a trial in the early cases, and if it does no good, it at least does no harm. The treatment is plausible and hopeful.—*Jour. Am. Med. Assn.*, November 14, 1903.

Adiposis Dolorosa in a Boy.

Gudjohnsen (Hospitalstidende, Copenhagen) reports a case distinguished by the fact that the patient was a young man, and that the symmetrical lipomata were some of them painful and others not. The affection had begun in childhood and none of the typical symptoms were lacking. In discussing the relations of this affection to myxedema, he mentions the entire absence of the lunula unguis in his experience in both affections. He had successfully treated another case of painful lipomatosis by means of six weeks of massage and then two weeks of thyroid treatment, which banished the pains completely. In the present case the fat deposits were so large that the breast measure was 142 cm., almost 52 inches. When the weather was hot the patient did not suffer from pains or hyperesthesia, and consequently felt better in the summer. He was intelligent and slept well, but as his weight was constantly increasing, he pleaded for thyroid treatment, which was accordingly instituted. He took two pills a day of 2 cg. of thyroïdin, with a milk-vegetable diet. After taking fourteen pills symptoms of thyroïdin intoxication developed, and the patient died eleven days after commencing this treatment. The writer reviews twenty one articles that have been published on the subject, including a number of American as well as European authors, besides those of Dercum.—*Ibid.*

Hypersecretion of Gastric Juice.

Strauss (Mitteilungen aus den Grenzgebieten, Jena) describes the clinical picture of this condition, free from complications, as the finding of more than 30 c.c. of true gastric secretion in the empty stomach without sprouting sarcinæ and molds, and negative results to the fermentation and current tests, indicating the lack of pronounced derangement of the motor function. From 10 to 20 c.c. indicates some abnormal condition; 20 to 30 c.c. is pathologic. The smallest amount

he found in any case with clinical manifestations was 40 c.c. The acute and intermittent cases are usually of nervous origin, occurring in the course of tabes or severe functional neurosis, but sometimes they are due to some local condition of irritation, possibly from stenosis. The chronic form of gastrosuccorhea may likewise be regarded as the result of some local irritation of the secreting apparatus of the stomach. The condition of irritation may be of intragastric origin, possibly from some motor disturbance, but usually outlasting the latter. Sometimes it is the result of gastric ulcer, which in turn is favorably influenced by the hypersecretion. In other cases the source of the irritation may lie outside the stomach, and be neurogenic or hematogenic. He advocates in treatment the systematic evacuation of the stomach contents with the stomach tube. In case of motor derangement he supplements this by lavage, raising the pelvis. An albumin and fat diet is kept up for several weeks—butter and oils, with frequent small meals, rectal feeding, and, if necessary, a course of treatment as for gastric ulcer. For medication he prefers alkalies, with silver nitrate if needed, bismuth and atropin if there are paroxysms.

Gastroenterostomy is the last resort. The article is concluded with a study of the metabolism in cases of hypersecretion.—*Ibid.*, November 21, 1903.

Epidemic Pneumonia.

Spaet (*Münchener Med. Woch.*, Munich) reports a suddenly-occurring epidemic of croupous pneumonia in a small German village, and concludes that the spread of the disease, involving, as it did, some 13 per cent of the population, must have been by contagion. Pneumonia undoubtedly is a contagious disease, but the contagion seems to depend more or less on the local and temporary conditions, which need further study.—*Ibid.*

Excessive Ascites from Thrombosis of Portal Vein.

Schulz and Mueller (*Deutsches Arch. f. Klinische Medizin*, Berlin) review the case. Liver was small but biliary secretion normal. Peritoneum absorbed the ascites in a large measure, and the amount of the fluid poured out daily into the abdominal cavity could be increased by giving a diet poor in albumin, and diminished by giving an abundance of albumin, especially milk. The proportion of nitrogen in the ascitic fluid varied with the amount of nitrogenous food taken,

and nitrogenized extractives were found in it. By diminishing the intake of fluids the excessive transudation could be somewhat modified and the time for the next puncture postponed for a short time. About 20 to 25 liters were withdrawn at each puncture. There was nothing to explain the origin of the thrombosis in the portal vein.—*Ibid.*, November 14, 1904.

Exercise as a Mode of Treating Diseases of the Heart.

Davis (*Ibid.*) believes that the primary indication for treatment in valvular diseases of the heart is to make and maintain a strong heart muscle. The most striking effect of muscular exercise on a weak or dilated heart is a rapid and very noticeable contraction of the organ. If the heart be weak but not dilated, the effect is less striking. The three rules to be observed in applying exercise to the relief or cure of heart disease are the following :

1. *The muscular effort must be slight, but numerous large muscles must be used*, since the secondary fall of blood-pressure is more persistent and is more dependent on the duration of the muscular movements and the size and number of the muscles used, than is the primary increase of blood-pressure.

2. *The respirations must be deepened but not hurried*, for quick, irregular and imperfect respiratory movements lessen the variations in intra-thoracic pressure, impede the venous and lymphatic circulations.

3. *The exercise must be graduated*. Massage and resistance gymnastics are the most gentle forms of exercise, and should be first used in all cases.

Hill climbing is not adapted to cases of very considerable weakness and dilatation, and all exercise must be stopped whenever the heart is felt to thump, or the breathing to shorten.

The best results are obtained in cases of dilatation, which are due to high arterial pressure or physical exertion, in which there is no, or trifling, degeneration.

The writer believes that resistance gymnastics and massage are adapted to convalescents from acute endocarditis, whether from rheumatism or other infection, but the patient should be kept in bed two weeks after the acute infection, which causes the endocarditis, is over. During the latter half of this time the most gentle massage or resistance exercise will greatly help promptly to effect compensation.

Of chronic valvular lesions the mitral most often responds to gymnastics. Drugs are recommended when indicated.

Tabes.

Stahl (*Ibid.*) concludes that in a large percentage of these cases there is an associated valvular cardiac lesion. He believes that the intimate relationship existing between syphilis and tabes and the pronounced circulatory changes induced by the former, make it reasonable to regard syphilis as the cause of the large percentage of cases of valvular heart disease, which we find associated with tabes. Disease in some part of the circulatory system is present in nearly all of these tabetic patients.

GYNECOLOGY.

In Charge of GEORGE GELLHORN, M.D., St. Louis.

Treatment of Dysmenorrhea.

E. Ries (*American Gynecology*, October, 1903) discusses a treatment for dysmenorrhea which was first devised by Fliess, a rhinologist in Berlin, in 1897. Fliess terms "nasal dysmenorrhea" a class of cases in which the menstrual pain is associated with and dependent upon a certain pathologic condition of certain spots in the nose. These, the so-called genital spots, are the anterior ends of the inferior turbinated bones and a spot on the septum opposite these, the tuberculum septi. At the time of menstruation, these areas increase in size and sensitiveness, bleed easily and are more or less cyanotic. In women with nasal dysmenorrhea the pain disappears immediately as soon as these spots are treated with a few drops of a 20 per-cent solution of cocain. Fliess stated that if only the right side is cocainized, the pain disappears on the opposite side almost completely, and if the opposite side of the nose is treated also, all pain disappears completely. If the turbinated bones alone are treated, the pain in the abdomen disappears, the pain in the back remains. In order to do away with the latter as well the tuberculum has to be painted. The suspicion that suggestion was at the bottom of his success could be excluded on account of careful and systematic experiments. In suitable cases, thorough cauterization of the genital areas in the nose with trichloracetic acid, or with the galvanocautery, produced lasting cures. To the numerous favorable reports in literature, Ries adds four cases

in which the effect of the cocain was evident. The treatment is exceedingly simple and easily applied by every practitioner. The value of the method may, however, be impaired by the possibility of the patients getting into the cocain habit in consequence of the success of this treatment. Ries, therefore, raises the question whether the amount of cocain used is too small to work by absorption. Furthermore, are there any cases known where patients acquired the cocain habit because they found that they were relieved of the dysmenorrhea by using cocain in some way? And, lastly, do cocain fiends continue to have dysmenorrhea inspite of systematic and regular use of cocain? There is still another point which, in the reviewer's opinion, should be emphasized. This treatment, though undoubtedly valuable, is applicable only to a limited number of cases. This fact is evidenced by the small number of cases in which Ries and other authorities deemed the method indicated. The unrestricted application of cocain in the nose must needs bring about an injudicious use of the treatment and may result in discrediting an otherwise valuable method. The new method does not do away with a careful consideration of the conditions existent and causative of the dysmenorrhea in the individual case. Exact diagnosis remains the main factor, without which the successful treatment of dysmenorrhea may become a mere chance.

Hammond (*Amer. Med.*, August 29, 1903) divides the medical treatment of dysmenorrhea into three classes: 1. The prevention of the attack. 2. The treatment of the attack. 3. The treatment between attacks.

1. The prevention of the attack in cases depending upon congestion of the pelvic viscera can frequently be effected by free saline purgation shortly before the expected appearance of the flow, especially when obstinate constipation is present. If there be no appreciable pathologic lesion found upon bimanual examination, 10 drops of tincture of gelsemium should be taken three times daily, begun each month seven to ten days previous to the beginning of the flow.

2. The treatment of the attack requires rest, preferably rest in bed, during the period. Hot vaginal or rectal douches, and a hot water bag over the abdomen afford a certain degree of relief. The fixed violent boring pains, due to small intramural myomas, may be controlled by suppositories of belladonna, hyoscyamin or antipyrin.

In "neuralgic" dysmenorrhea, phenacetin, antipyrin, gelsemium, cannabis indica, the bromids, caffeine, sodium benzoate, and viburnum prunifolium alone, or in suitable combinations, are indicated. Diaphoresis should be encouraged. In cases of dysmenorrhea, due to congestion or inflammation of the genital organs, hot water applications, including hot sitz-baths, should be ordered, in addition to free purgation with salines and the administration of such drugs as are enumerated above. Of the latter, antipyrin, especially when given hypodermatically, in very severe cases as much as 15 grains at a dose, which is not to be repeated, seems to be superior to all other coal-tar products. Opium and alcohol should be used with great discretion, because of the danger of chronic morphinism and alcoholism. Among other symptomatic remedies are to be mentioned large hot flaxseed poultices, sprinkled with a dessertspoonful of laudanum and applied to the abdomen every two hours; a liniment composed of the fluid extracts of belladonna and hyoscymamus, of each 1 dram, and camphor liniment to 3 ounces; an enema of 2 drams of the infusion of valerian to 1 pint of water. In dysmenorrhea, due to a vasomotor spasm, nitroglycerine, gr. $\frac{1}{100}$, repeated in an hour if necessary, will usually afford immediate relief.

Hammond, furthermore, speaks in detail of the method of Fliess (see the abstract of Ries' paper on the same subject). Whether this treatment involves suggestion or not, it is in itself harmless and ought to make the method welcome to physician and patient.

Finally, there is a form of dysmenorrhea which is associated with a pain localized in the right lower quadrant of the abdomen. In these cases, when the ordinary methods have failed to relieve the dysmenorrhea, and a careful physical examination shows a normal condition of the pelvic viscera, an appendiceal colic, not a true appendicitis, caused by the pelvic congestion accompanying menstruation, is probably the underlying cause. Such patients have been relieved by the removal of the vermiform appendix.

3. The treatment between the attacks should be to promote the general health of the patients by tonics, proper exercise, baths, suitably adjusted clothing, and attention to the bowels. Pelvic congestion should be depleted by local treatment. Intrauterine treatment is not to be recommended, save for membranous dysmenorrhea.

When there is a demonstrable pelvic lesion, medical treatment is only palliative; surgical measures are necessary to effect a cure.

W. E. Parke (*Medical News*, December 19, 1903) discusses the surgical features of the treatment for dysmenorrhea. The cramp like pains of obstructive dysmenorrhea indicate operative interference. If a fibroid tumor be the cause, its removal even with amputation of the cervix is necessary. Cicatricial contraction, due to previous operations, require dilatation and at the same time curetage, as the endometrium is always diseased in such cases. Membranous dysmenorrhea will be cured by wide dilatation, curetage and application of pure carbolic acid to the endometrium. Spasmodic dysmenorrhea, though usually of short duration, produces severe cramp-like pain which as a rule, is relieved by dilatation and curetage. The internal os, in these cases, is probably very sensitive and acts as a sphincter; and the forcible dilatation paralyzes or lacerates some of the muscular fibers, and thus relieves the spasm so that secretions, and especially clots, are expelled through the widened drainage canal with less muscular effort. (It may be added here that Theilhaber of Munich recommended, for this sort of cases, shallow longitudinal incisions through the os internum.) In performing dilatation and curettement, painstaking care should be given to all antiseptic and aseptic details, and the danger of uterine perforation should be borne in mind. Physical examination should always precede the operation to determine the absence of any contraindications.

Vaginal vs. Abdominal Operations in Gynecologic Diseases.

Karl Abel (*Berliner Klin. Woch.*, December 7, 1903) discusses the question, which should be the routine route in gynecologic operations? While the vaginal extirpation of the carcinomatous uterus has become a generally recognized method, a considerable number of gynecologists still adhere to abdominal operations for retroflexion of the uterus, diseased uterine appendages and fibroids, in spite of the numerous disadvantages peculiar to laparotomies. The prejudice against the vaginal route is based upon the suppositions that operating is done in the dark; that the uterus and other adjacent organs are frequently injured during the course of the operation; that asepsis can not be as strictly observed as in laparotomies, and, finally, that checking of hemorrhages is not always certain. Abel, however, insists that these apparent objections are overcome by the acquirement of the necessary though difficult technique. On the other hand, the vaginal

route offers great advantages over abdominal operations. The mortality is considerably lessened; complications so frequently arising after laparotomies, such as intestinal adhesions, ileus, sepsis or hernia, hardly ever occur after vaginal operations; the operative shock is reduced to a minimum; convalescence is rapid and after-treatment very simple. Especially in regard to myofibroma, vaginal operation should be the method of choice. The advancement in our knowledge about this class of neoplasms and their deleterious influence upon the heart must induce us to operate in every case of myofibroma, even though the patient be without any subjective symptoms. The large majority of fibroids can be removed through the vagina. Even large tumors should be attacked from below. The operation by morcellement does not appeal to the eye and is extremely laborious, but is much less dangerous to the patient than the laparotomy and renders convalescence much easier.

F. Mainzer (*Zentralblatt f. Gyn.*, No. 35, 1903) considers vaginal operations superior to abdominal operations. In performing vaginal celiotomy, he prefers the incision through the posterior laquear, for the following reasons:

1. The organs upon which the operation is to be done lie almost exclusively behind, not in front of the uterus. Consequently, through the incision in the posterior cul-de-sac, the operator has a direct access to the organs in question.
2. The posterior colpotomy is a very simple procedure in which injuries to adjacent organs are easily avoided.
3. In the posterior colpotomy the abdominal cavity is opened at its lowest point so that drainage, if necessary, can effectually be employed.

In performing posterior colpotomy, it is of greatest importance to operate "bimanually;" i.e., both hands are employed as in bimanual examination. While one or two fingers of the inner hand are introduced through the incision into the peritoneal cavity, the outer hand is placed upon the abdomen to assist in breaking adhesions and freeing and pulling into the vagina those organs which are to be extirpated. The particulars of this procedure should be read in the original. (The author claims the priority for the routine performance of "bimanual operation." The identical method, however, was practiced and published by Mackenrodt in 1897.) The results are surprisingly good.

Posterior colpotomy is apt to limit considerably both laparotomy and vaginal radical operation.

SURGERY.

In Charge of M. G. GORIN, M.D.

New Method of Performing Perineal Section Without a Guide.

Gibson (*Annals of Surgery*) describes a method by which the urethra is more readily located when circumstances render it necessary to perform external urethrotomy without a guide. This operation becomes, at times, a very difficult proceeding when the natural contour of the perineum is distorted by edema or extravasated urine. In such cases the author facilitates the location of the urethra by introducing a large, sharp hook through the rectum, which has been previously thoroughly cleansed and irrigated and dilated by a Kelly speculum, and transfixing the prostate laterally. Median peritoneal section is then made to the ordinary depth and the forefinger is introduced to the bottom of the wound. An assistant then exerts intermittent traction downward and backward on the prostate by means of the transfixing hook. This tugging readily demonstrates to the exploring finger the urethra as traction is made upon it. Keeping the finger still in place, the point of the knife is readily introduced into the channel of the urethra, followed by the probe-pointed director and small metal catheter. The author has used this method more than twenty times with uniform success and states that the procedure as detailed occupies only about two minutes. The danger of infection from rectal fixation, he claims, is more presumable than real, and states that in none of the twenty cases was there any bad result. He does not recommend the indiscriminate employment of this measure, but only in those cases which present unusual difficulties.

Method of Retaining Ends of Fractured Bones in Apposition During Fixation by Plaster-of-Paris Dressing.

Johnson (*Ibid.*) describes an original method of accomplishing this result, which is frequently very difficult to obtain by ordinary means. The immediate application of a fixed dressing to a fracture is advocated in all cases, no temporary splint being used to allow for sub-

sidence of swelling. Having carefully and thoroughly padded all prominences where swelling would occur, the plaster is applied and afterwards split down to the skin. In dealing with, say, a supracondyloid fracture of the humerus, where rapid swelling of the elbow always occurs, and overriding of the fractures is prone to take place, the following method is employed to retain the ends of the bone in apposition during the application of the dressing.

Having put the patient to sleep, take two or three strips of bandage and smear them with vaseline. Apply one strip around the humerus above the site of fracture, one just over the fracture, and a third on the forearm, just below the elbow. In the hands of two assistants the upper one is pulled back, the lower one down, and the third tightened to keep the bones from tilting, after they have been approximated. Now a loose flannel roller is applied from hand to axilla, then the necessary padding, and plaster-of-Paris, the vaseline strips remaining in position, and the required traction maintained by the assistants. After the plaster has hardened one end of the strips is released, and being greased, is readily pulled out, leaving a small hole which can be filled with plaster if desired.

Having removed the strips, split the dressing and loosely approximate with strips of adhesive, in order to allow for consequent swelling. The plaster can thus remain *in situ* during the whole period, being easily readjusted by means of the adhesive strips

Operative Possibilities in Advanced Cases of Carcinoma of the Breast.

Pilcher (*Ibid.*) gives a detailed report of 50 cases of Carcinoma of the Breast operated upon by him at the Seney Methodist Episcopal Hospital since 1887. All cases previously operated upon and again presenting with recurrence, were excluded from the list tabulated. Regarding the technic of the operation they are divided into four classes:

1. Ablation complete to the apex of axilla, without removal of either pectoral muscle. Two cases.
2. Ablation complete to apex of axilla, with removal of pectoralis major only. Eleven cases.
3. Ablation complete to apex of axilla, with removal of both pectoral muscles. Twelve cases.
4. Ablation complete to apex of axilla, with removal of one or

both pectoral muscles, and invasion of the supraclavicular region. Eighteen cases.

Of the 13 cases in classes 1 and 2, 4 have remained well until the present time, from eight to ten years after operation; 3 were immune for six years; 3 recurred in distant regions within three years. In 2 cases local recurrence took place. These cases (in classes 1 and 2) were those in which the disease had not advanced to such an extent as to render difficult the cleaning of axilla, and no involvement of the muscles had occurred.

In class 3, where the disease had reached an advanced stage, the results were as follows: 1 case, history unknown; 1 lived five years and then died of acute pneumonia; 2 are well at the present time, three years after operation; 1 is living five years after operation, but with recurrence in axilla and above the clavicle; 1 is living three years after operation with carcinoma of liver; 6 have died from one to five years after operation with supraclavicular recurrence.

In class 4 but 2 cases have remained well, six and four and one-half years respectively since operation. A third is still living two and one-half years after operation in good general health, but with evidence of recurrence in ribs. The remaining 15 are all dead, the majority with intrathoracic metastases. The operation of thoroughly removing the cancerous breast is a difficult and laborious procedure, but with improved technic the results are remarkably better. Billroth, for example, in 1878 reported 73 cases operated upon with a mortality of 27, more than one in three dying as a result of the operation. Now many lists of 100 consecutive cases are reported without a death. With regard to the extent of the operation, every tissue related to the affected breast by propinquity or by connecting absorbent ducts, rests under suspicion and in every case an extensive removal of all presumably affected tissue is imperative to a successful operation. The fact is emphasized that "Every case of carcinoma of the breast, in which a palpable tumor is formed, is already in an advanced stage."

Roger Williams analyzed 2,422 cases of primary mammary neoplasms and found of this number 1,974 that were malignant, that is over 81 per cent.

BIOGRAPHICAL SKETCHES.

DR. WILLIAM CARR LANE.

We have related a brief history of the pioneer scientist of the Mississippi Valley, of whom we can well be proud, and in this number the life of the world-renowned experimental physiologist, the American pioneer in physiologic research is sketched. Dr. William Carr Lane is also distinguished as the first—but not in medicine. He was the first mayor of St. Louis and ranks among our most honored men who contributed to the early progress of the Western metropolis.

Dr. Lane was born in Pennsylvania, December 1, 1789. He was educated at Dickinson College, Carlisle, and at the Jefferson College. Afterward he removed to Louisville, Ky., where he commenced the study of medicine. As the Indian Wars were raging at the time he enlisted in the army, but found his services most useful as a surgeon's mate. He graduated in medicine from the University of Pennsylvania in 1816. Very soon after his graduation he was given the position of post-surgeon at Fort Harrison, which he held for three years.

In 1819 he came to St. Louis and became a partner of Dr. Samuel Merry with whom he practiced for several years. Dr. Lane, by his noble presence, pleasant manners, great integrity and active spirit, won the respect and admiration of the citizens of St. Louis both as a physician and citizen. He was elected to the honored office of mayor when the city received its charter, in which office he served for five years. After an interval of several years he was again elected and re-elected several times.

Dr. Lane may be called the first sanitarian of St. Louis, since it was he who established the first board of health, and in his first message as mayor he emphasized the principles of hygiene. His appreciation of the fundamental laws may be seen from several statements in the message referred to: "Health is a primary object and there is much more danger of disease originating at home than of its seed coming in from abroad." Though we may not agree in this without modification it still remains one of the principles of practical sanitation. He called attention to the greater prevalence of fevers (probably typhoid) than had been observed in former years, and for its eradication he recommended the cleaning of streets and alleys, and the improvement of drains.

Dr. Lane held the chair of Obstetrics and Diseases of Women and Children in Kemper College.

In 1818 he married Miss Mary Ewing. They had three children, one of whom, Mrs. William Glasgow, still resides here.

In 1852 President Fillmore appointed him Governor of New Mexico.

He died in St. Louis January 6, 1863, and his death was everywhere received with a profound feeling of regret.

DR. WILLIAM BEAUMONT.

The pioneer American physiologist, as Osler has so aptly called him, was born in Lebanon, Connecticut, in 1786. "His father was a thriving farmer and an active politician of the proud old Jeffersonia school. William was his third son, who in the winter of 1806-7, in the 22d year of his age, prompted by a spirit of independence and adventure, left the paternal roof to seek a fortune and a name. His outfit consisted of a horse and cutter, a barrel of cider and \$100 of hard-earned money." He spent several years in Champlain, New York, where, by his industry and honesty, he won the people's confidence. He taught school and began the study of medicine under the preceptorship of Dr. Seth Pomeroy; he then took a course of medical study under Dr. Benjamin Chandler, at St. Albans, Vermont. He received the appointment of Assistant Surgeon in the United States Army at the outbreak of the war of 1812. At the close of the war he settled at Plattsburg, but, after a few years, was induced to join the army service again, where he remained altogether for about 20 years.

In June, 1822, while stationed at Fort Mackinac, he came into possession of Alexis St. Martin, the subject of his "Experiments on the Gastric Juice." Experiments were continued on St. Martin, with interruptions, for eight years, and the report of these experiments give Dr. Beaumont the unquestionable right to the title - "The Pioneer American Physiologist." The story of this accident, the great perseverance and skill shown by Dr. Beaumont in nursing and treating St. Martin, the prompt recognition of the former that he had a singular opportunity to advance physiological knowledge, and his careful and persistent efforts in experiment and observation, are too well known to need repetition.

In 1834 he was ordered to St. Louis, where he was stationed at Jefferson Barracks, but he resigned this position in 1839 and became engaged in active practice. He soon won the confidence of the people and had a large and lucrative practice. He was a faithful, honest and hard working general practitioner.

He died in April, 1853.

A most interesting account of his work was given not long since by Wm. Osler in the *Jour. Am. Med. Ass'n.* and *St. Louis Med. Rev.*

BOOK REVIEWS.

The Courier of Medicine Company will mail, postpaid, any book reviewed, on receipt of price.

Lea's Series of Medical Epitomes.

Wathen's Epitome of Histology.—A Manual for Students and Physicians. By John R. Wathen, A.M., M.D., professor of surgery, etc., formerly professor of histology and pathology, Kentucky School of Medicine, Louisville, Ky. 12mo., 220 pages, 114 illustrations. Lea Brothers & Co., Publishers, Philadelphia and New York, 1903.

This book should prove one of the most valuable in the medical epitome series, and is adapted to the needs of the pathologist, as well as to those of the students of histology and embryology. The treatment of all subjects, while condensed, is yet scientific and thorough, containing all facts essential to a thorough understanding.

The author has succeeded in preparing a short manual of histology, which serves as a medium of ready reference and at the same time furnishes a solid foundation for a more comprehensive study of this important branch of medical science. Typographically, the book leaves nothing to be desired; the plates are excellent; the principal sub headings italicized, and quiz questions follow each chapter.

While not a laboratory manual, the section on histological technique adds greatly to the usefulness of the volume to the practical student. We have no hesitancy in pronouncing approval on Dr. Wathen's work.

Hale's Epitome of Anatomy.—A Manual for Students and Physicians. By Henry E. Hale, A.M., M.D., assistant demonstrator of anatomy, College of Physicians and Surgeons (Columbia University), New York. In one 12mo. volume of 384 pages, with 71 illustrations. Cloth, \$1.00 net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1903.

This compendium is of pocket size, yet covers the essential details of anatomy in a comprehensive manner. The usual arrangement of interspersing questions with the text is replaced by a series of ques-

tions at the end of each of the six divisions of the work, which is a decided advantage. For an accurate, reliable, succinct compendium of anatomical facts, the work leaves nothing to be desired.

An Epitome of Inorganic Chemistry and Physics. By A. Mc-
Glannan, M.D., of the College of Physicians and Surgeons, Bal-
timore. 12mo of 212 pages, illustrated with 20 engravings. Cloth,
\$1.00, net.

Like the rest of this series, this little book deserves high com-
mendation, although its terseness might be a trifle confusing to
beginners.

Diseases of the Skin.—Jay F. Schamberg, A.B., M.D., professor of
diseases of the skin, Philadelphia Polyclinic, etc. Third edition
revised and enlarged. 106 illustrations. Price 80 cents net. P.
Blakeston, Son & Co., 1012 Walnut street, Philadelphia, 1903.

This is a compendium and as such is good. For the student it is
primarily intended, but it is a handy volume for ready reference and
review by the practitioner.

The anatomy of the skin, a study of symptomatology in general,
and the classification of skin diseases precedes the study of the sepa-
rate affections. The texts are well illustrated.

Rogers on Infectious Diseases.—Their etiology, diagnosis and
treatment. By G. H. Roger, professor extraordinary in the
faculty of Medicine of Paris, etc, translated by M. S. Gabriel,
M.D., New York. In one octavo volume of 864 pages, with 43
illustrations. Cloth, \$5.75 net. Lea Brothers & Co., Philadel-
phia and New York, 1903.

This is the work of a master and its purpose is an attempt to
systematize our knowledge concerning the infectious diseases. It dif-
fers from the ordinary text book on the practice of medicine, in that
it combines the theoretical and the practical in such a way that the
mind can more readily grasp the whole subject. It is a fitting sequel
to his "Introduction to the Study of Medicine."

The work opens with general considerations. He quotes Bou-
chard in giving the definition of infectious diseases: "Infectious dis-
eases are characterized by phenomena manifested in an individual
when undergoing the action of parasitic toxins and reacting against
them."

Under the etiology of infectious diseases he discusses the origin and transmission of infections. The pathogenesis of infections treats extensively on the means of activity of micro-organisms. One of the most important chapters is on the defenses and reaction of the organism, upon a thorough knowledge of which our scientific therapy must be based.

Professor Roger has had almost unlimited experience in observing all the varieties of infectious diseases, and he combines admirably the researches of the laboratory with clinical observation, so that there runs a practical vein throughout the volume. He gives an extensive description of the reactions of the individual to infectious agents.

The question of diagnosis and prognosis are described in separate chapters. In fact, treating the subject as he does from the standpoint of the clinician first and the pathologist afterward, the whole volume shows a diagnostic teaching throughout its pages. Finally, the therapeutics of the infectious diseases receives extensive consideration, and here he lays the foundation of a broad therapeutic knowledge. Altogether, the work has a wide field, in that it brings modern experimental research into harmony with every day practice.

Refraction and Motility of the Eye. By William Norwood Suter, M.D., assistant surgeon Episcopal Eye, Ear and Throat Hospital Washington, D. C. The volume is illustrated with 101 engravings and 4 plates in colors, and monochrome. Price, cloth, \$2 00. Lea Bros. & Co., Philadelphia and New York. 1903. Pages, 380.

The author discusses this subject in a manner simple enough for beginners in ophthalmology and yet sufficiently complete to interest more advanced students.

Consumption a Curable and Preventable Disease. What a Layman Should Know About It. By Lawrence F. Flick, M.D., founder of the Pennsylvania Society for the Prevention of Tuberculosis, etc. Price \$1.00. David McKay, Philadelphia, 1903.

A commendable work. It is the story of consumption plainly, scientifically, forcefully told. Great stress is laid upon consumption as a house disease. The laity, especially employers, should be made to realize this truth. We do not think tuberculosis is as prevalent as the author believes it to be, nor that in the majority of cases other diseases only kindle the fire already laid; these rather leave a favorable soil. This book is destined to accomplish good by enlightening the laity. It might enlighten some physicians—if they would read it.

The Neurological Practice of Medicine. A Cursory Course of Selected Lectures in Neurology, Neuriatry, Psychology and Psychiatry; applicable to general and special practice. With 177 illustrations after the author's class-room methods as a teacher of students. Designed for students and general practitioners of medicine and surgery. By Charles H. Hughes, M D., president of the faculty and professor of neurology, psychiatry and electrotherapy, Barnes Medical College. 1903.

"This book aims to help students along their arduous way, over the neurological obstacles in their path, * * * it does not go all the way or point out all the paths, but some of the best neurological roads for the practitioner to follow."

Transactions of the Texas Medical Association. Thirty fifth Annual Session, held at San Antonio, Texas, April 28 to May 1, 1903. H. A. West, Secretary, Galveston.

This large volume gives the minutes of the thirty-fifth session. A number of valuable papers were read at that meeting; the following is only a partial list: Tropical Diseases in Texas, by John T. Moore; Malta Fever, by C. F. Mason; Subjective Symptomatology of Heart Disease, by H. A. West; Sporadic Cerebrospinal Meningitis, by M. Duggan; Scarlet Fever, by G. T. Thomas; Cows' Milk in Infant Feeding, by J. H. Bute; Farahenf's Operation, by J. E. Thompson; Appendicitis, by F. P. Miller; The Significance of the Recently-Recognized Hookworm Disease for the Texas Practitioner, by C. W. Stiles, Ph.D. [This is an extensive and valuable exposition of the subject of Hookworm Disease.]

Announcement.

Of this issue we mail 5,000 extra copies with a view of increasing our subscription, see subscription blank, advertising page 3.

New Orleans Polyclinic.

Seventeenth Annual Session Opens November 2, 1903, and Closes May 28, 1904.

Physicians will find the Polyclinic an excellent means for posting themselves upon modern progress in all branches of medicine and surgery. The specialties are fully taught, including laboratory work.

For further information, address, New Orleans Polyclinic, Post-office box 797, New Orleans, La.



DR. EDWARD C. RUNGE.

Born in St. Petersburg, Russia, in 1856; Died in St. Louis, February 10, 1904.
(See Obituary, Page 186.)



DR. JOSEPH NASH McDOWELL.

Born in 1805; Died in St. Louis, 1868.

(See Biographical Sketch, Page 189.)

ST. LOUIS

COURIER OF MEDICINE.

VOL. XXX.

MARCH, 1904.

No. 3.

ORIGINAL CONTRIBUTIONS.

The Serum Treatment of Summer Diarrhea.

By JOHN ZAHORSKY, M.D.,

ST. LOUIS, MO.

SINCE the discovery of a specific bacillus as the cause of dysentery by Shiga, Kruse and Flexner, and since Duval and Bassett found this bacillus in the majority of cases of summer diarrhea in Baltimore in 1902, the hope has arisen that an antitoxic or bactericidal serum might be prepared which shall be helpful in the dangerous diarrheal diseases of infancy. It was reported that Flexner himself was engaged in perfecting such a serum, and at the last meeting of the American Pediatric Society, Holt and others reported that the clinical experiments were encouraging.

When, therefore, during the month of July, a very severe epidemic of gastroenteritic infection broke out in the Bethesda Foundling Home, it was determined to procure some antidysenteric serum and ascertain its clinical value by trial. Acting under the directions of Dr. Saunders I went to Detroit and procured some antidysenteric serum from Parke, Davis & Co. This serum was made by injecting cultures of the Shiga bacillus into the circulation of the horse at intervals and after several month's treatment the serum was drawn in the usual way.

I was told that the horses reacted very strongly to these injections and altogether there was evidence that antibodies had formed in the system of the animal. As only one race of this micro-organism was used in preparing the serum it was termed monovalent. Later, I obtained a serum made by injecting several varieties of the dysentery bacillus, which was called polyvalent.

The epidemic broke out about the middle of July, and within a few days about twenty-five infants were seriously ill. Presumably, the source of infection was the milk which had not been pasteurized.

There was nothing especially distinctive in the symptomatology. After one or more days of indigestion the infants began vomiting and a diarrhea, not especially severe, followed. Except in a few babies the temperature was not high, but all showed severe toxic symptoms in the disturbance of the circulation, the rapid emaciation and high mortality. The stools were usually green, sometimes mixed with a little mucus. Blood in the stools was only seen twice. None of the infants suffered from that clinical type of disease known as cholera infantum. On post mortem, the lesions revealed a severe ileocolitis. In one case extensive ulceration of the small intestine with hemorrhage into the bowel was found. All cases examined showed ulcerations of the solitary follicles.

As to the bacteriologic cause nothing definite can be affirmed. Cultures were made from the stools of two infants, and following the general directions of Flexner (that is, allowing the plate culture to grow two days and selecting colonies which grew on the second day), a bacillus which resembled the colon bacillus was isolated, but its characteristics was not followed up to determine its relationship to the Shiga bacillus. This bacillus did not produce gas readily on glucose agar. Unfortunately, by some error, the cultures died before other characters could be ascertained. I carried on quite a number of agglutination tests with the bacillus of dysentery (Shiga). The blood of several infants after they had been sick for about ten days agglutinated this bacillus in a dilution of 1 to 30 or 1 to 40. Stronger dilutions usually resulted negatively. This test was also tried with the blood of healthy infants, which also in a dilution of 1 to 10 or 1 to 20 agglutinated the bacilli. All that can be definitely affirmed is that the blood of the sick agglutinated this bacillus in a higher dilution than that of the

well babies of that institution. But this would by no means signify that Shiga's bacillus was the cause of this epidemic. I need only recall that Shiga, Flexner and others have admitted that the agglutinating test is not necessarily specific.

Park, in a paper read before the New York Society for Experimental Biology and Medicine, demonstrated that agglutinins may be found in untreated animals, and treatment by the injection of one variety of bacteria may really cause a greater agglutination of another variety. Then there are manifold sources of error in the technic itself, so that for diagnostic purposes only a reaction at a very high dilution (1 to 100) is significant.

Allow me to reiterate, that the knowledge of the dysentery bacilli is still in a very confused state. Escherich, several years ago, isolated a bacillus from the stools of infants suffering from diarrhea which agglutinated with the blood of the sick infant. He concluded that it was a virulent colon bacillus, and gave the name of colicocolitis to the infection. The discovery of Shiga and the researches of Kruse, Flexner and Duval followed and for a time it seemed that we were in a good way of having the subject classified. But differences are known to exist in the cultural peculiarities of Shiga's, Flexner's and Duval's bacilli. In the early part of this year His and Russel (*Medical News*, February 14) described a bacillus from a fatal case of diarrhea in a child which resembled the Shiga bacillus, and yet showed certain peculiarities of its own. It is another one of the dysentery bacilli.

Again, Bugey (*Journal of Medical Research*, August, 1903), in studying a variety of cultures made from ordinary water, concludes that the agglutination test with dysentery immune serum was unreliable to differentiate the different groups of dysentery bacilli. Like Kruse, he found pseudo-dysentery bacilli in the water.

We seem to have almost come back to the same place as we were after Booker's classical study, that is that the bacteriological study of summer diarrhea presents a problem of such complexity that only expert bacteriologists can hope to advance in the least.

But, as clinicians, we asked the question: Does the monovalent antidysenteric serum benefit cases of severe summer diarrhea? The answer, as evinced from our trials, is entirely definite, that this serum in no way helped the infants in this

epidemic. The temperature of the nursery during this epidemic was about 90° in the afternoon, and this excessive heat, no doubt, contributed to the high mortality. Blood examination was made in about a dozen babies, a report of which is published elsewhere (*New York Medical Journal*, also *Medical Bulletin Washington University*). Suffice it to say that the hemoglobin was about normal and a leukocytosis was found in only one baby. All, however, gave a marked increase in the polymorphonuclears and a decrease of the lymphocytes, so that the normal relation of 2 to 3 or 1 to 2 was reversed, and the relation of the polymorphonuclears to the lymphocytes was 3 to 2, 2 to 1, or even 5 to 2.

The general treatment outside of the serum injections was—the absolute withdrawal of milk and the substitution of rice-water, the administration of oil of cinnamon and camphor in emulsion. Bismuth subnitrate was given in most of the cases. Enteroclysis was frequently resorted to in the severe cases. For restlessness and pain, chloral was administered. For vomiting, milk of magnesia and especially, valiolol gave good results. Stimulants, in the form of camphor, atropin, brandy, nux vomica and nitroglycerin were used.

The babies were in charge of Drs. Johnson, Levy, Campbell and myself, and each physician made a few changes in the treatment of the babies under his care.

REPORT OF CASES RECEIVING THE ANTIDYSENTERIC SERUM.

CASE 1.—Dennis, aged 10 months; entered the Home about two weeks before his fatal illness. Was apparently a healthy, fairly well-developed baby. Soon after admission he was taken with symptoms of acute indigestion and was placed upon rice water and given a dose of calomel. He improved on this until July 21st, when he was suddenly taken very ill with vomiting and diarrhea. On the following day he was better, but on July 24th he became much worse and received 5 cc. antidyenteric serum, but in spite of active stimulation he died on the following day. In severity of symptoms this case resembled cholera infantum, but lacked the typical rice-water stools; his stools were greenish and slimy.

CASE 2.—Dorothy, aged 6 months; had indigestion for several days and had been fed on rice-water. July 20th a return to milk was ordered and on the following day vomiting,

diarrhea and prostration were marked. The temperature at the highest was 100° ; stools green, slimy and offensive. She received two doses of antidyenteric serum of 5 cc. each; also a dose of castor oil; milk was continued. July 22d, one dose of serum, diarrhea less. July 23d, one dose, 5 cc., serum; milk continued, diarrhea worse, little fever. July 24th she received another dose of serum with no improvement in her condition, and she died five days later.

This was the only instance in which the milk was continued after the onset of severe symptoms and the result was bad.

CASE 3.—Sarah, aged 5 month; had indigestion for several days and was at once placed on rice-water; a camphor emulsion was also given. July 21st she showed no improvement, the stools were thin and green and she vomited several times. She received two injections, 5 cc., of serum on July 21st, one on July 22d, another on the 23d and one on the following day. The temperature was 100.6° at most. She died two days after the last injection.

CASE 4.—Jimmie, aged 5 months; a typical atrophic baby. In spite of careful feeding with a whey and cream mixture he became very much emaciated. July 20th his symptoms became worse and he was given five serum injections with no evident signs of improvement. The temperature rose to 104° one afternoon immediately preceding an injection. The disease ran a prolonged course with slow recovery.

CASE 5.—Constantine, aged 3 months; had indigestion for ten days preceding the onset of severe diarrhea and vomiting. July 20th, validol and milk of magnesia were given for excessive vomiting. She had taken Nestle's food which was replaced by whey and rice-water. Serum injections July 21st, 22d, 23d and 24th, with no obvious effect. The temperature rose to 100.6° after the first serum injection. This baby slowly recovered.

Blood examination showed leukocytes 9,290 on July 27th.

CASE 6.—Bert, aged 8 months; fine, healthy-looking boy. July 16th vomited once and stools changed in character but were not frequent. Two days later rice-water was substituted but symptoms grew rapidly worse. July 20th vomiting very severe; looks very sick; validol and magnesia were given.

Serum injections of 15 cc. in two doses were given July 21st, and 5 cc. daily for the next four days. No improvement;

stools green and slimy; ordered intestinal irrigation once daily. The temperature rose and continued steadily from 101 to 103°. On August 3d, eight days after the last serum injection, the temperature rose to more than 105°. The food was mainly rice-water; later, malted milk and some skim milk was substituted. Eight days after the last serum injection he developed a very severe erythema multiform with marked aggravation of the constitutional symptoms.

A leukocyte count on July 27th gave 12,328. Differential count: Polymorphonuclears 55, lymphocytes 32, large mononuclears 8, and transition forms 5 per cent. A blood count August 5th showed 18,520 leukocytes with a similar differential count. He died a few days later.

This was the only case which showed a severe eruption, presumably from the serum. A peculiar symptom was Kernig's sign and exaggerated reflexes, soon after the onset of the disease.

CASE 7.—Belle, aged 8 months; a healthy, fine-looking girl. The symptoms were very much like the preceding case, beginning with symptoms of indigestion which rapidly became worse. Vomiting and diarrhea with green slimy stools was followed by high fever and prostration. She received five serum injections. Temperature rose to 104° one week before she died (August 1st). She also showed some cerebral symptoms, rigidity of the nucha being especially marked. She was given rice-water for several days then milk was substituted, which only aggravated her symptoms.

Blood count July 27th gave the leukocytes as 18,050. Differential count: Polymorphonuclears 51, lymphocytes 29, large mononuclears 11, and transition forms 7 per cent. Eosinophiles were also found.

This and the preceding case were those of healthy infants and yet our therapeutic measures were futile.

CASE 9.—Lyman, aged 5 months; disease began with some symptoms of indigestion for which pepsin had been prescribed. July 17th the temperature rose to 105.9° in the afternoon; the fever was reduced with baths, and rice-water substituted for the milk. On the following day the temperature remained constantly over 104°, unless reduced by bathing. Stools brown and greenish in color, considerable mucus. July 20th the symptoms were about the same; chloral and

bismuth mixture was prescribed. This mixture was suggested by Dr. Saunders, and had the following formula :

R Chloral hydrat.....gr.j
Syrup rhei arom.....m.xv
Bismuth subnit.....gr.x
Syrup simp'is.....3j

M. Sig.—Teaspoonful every three hours.

The serum injections were commenced July 21st and were continued once or twice daily for four days. The temperature fell after these injections and some improvement in the general condition appeared.

Leukocyte count July 27th was 11,990, August 5th it had risen to 21,285. He died a few days later.

CASE 10.—Clyde, aged 5 months; diarrhea in moderate severity. He received about five injections of serum and gradually, after an illness of three weeks, recovered.

Treatment consisted of rice-water and Nestle's food, with camphor and brandy as stimulants.

CASE 11.—Paul, aged 9 months; a well-developed baby. He had been on barley-water and Nestle's food for some time on account of milk indigestion. July 17th diarrhea began, which increased in the next few days. Some one ordered a weak milk mixture which aggravated the symptoms. Three doses of antidiysenteric serum were given with no benefit.

The temperature rose rapidly, rice-water was ordered, with stimulants. The abdomen became very much distended and the abdominal muscles rigid. Brandy and camphor was prescribed. The abdominal symptoms suggested peritonitis to Dr. Johnson. Vomiting ensued and the baby died two days after the abdominal symptoms.

Blood count July 27th showed a leukocytosis of 33,160. Differential count: Polymorphonuclears 61, lymphocytes 25, mononuclears 7, transition forms 7.

Post mortem examination revealed some ulceration of the jejunum and hemorrhage into the bowel.

CASE 12.—S., a marasmic baby, who was rapidly losing weight. He received only one injection and died soon afterward.

Altogether, then, the serum had no beneficial effect. As the severest cases were treated with the serum, a comparison of the treated and untreated cases is not fair. Even among those not treated the mortality was very high.

THE POLYVALENT SERUM.

Later, during this year, I received a supply of polyvalent serum. This was used in three cases, one of which was undoubtedly a case of general septicemia with some intestinal symptoms and should be ruled out. The other two cases presented a severe type of gastrointestinal infection. Both recovered promptly under the use of the serum. The history of the cases are very much the same, so that only one is hereby appended.

CASE 13.—Thomas, aged 1 year; a fine-looking boy, was suddenly taken with severe vomiting and diarrhea, October 25th. The stools were thin and green, rapidly becoming watery. He was given a dose of castor oil, followed by bismuth and blackberry cordial. The milk was discontinued and rice-water substituted. The temperature rose to 104° in the afternoon and he was given a spray bath which reduced the fever about 2° , but it rose again during the night. About 6 p.m. the stools had become slightly greenish, watery and passed every few minutes. The clinical picture resembled that of cholera infantum; the eyes became sunken, the extremities cold; a distressed appearance about the face showed the baby to be very sick. Ten cc. of polyvalent antidysenteric serum was injected at 10 p.m. and paregoric was ordered in 20 drop doses to restrain the excessive intestinal discharge. Heat was applied to the extremities, but in spite of the paregoric the baby was awake throughout the night.

October 26th one serum injection of 10 cc. was given in the morning; paregoric and blackberry cordial every three hours during the day. Water and rice-water were given every two hours in large quantities. The temperature rose to 103° in the afternoon, after that it declined. October 27th the boy was very much improved, temperature normal and the diarrhea checked. The infant continued to improve and milk was gradually substituted.

A differential blood count on the third day of illness gave the following: Polymorphonuclears 56, lymphocytes 41, large mononuclears 4.

CASE 14.—The history of this case resembles that of the preceding one, although the symptoms were less severe.

Although the results in these two cases were very striking, and while two cases are insufficient on which to base any definite conclusion, it encourages us to try the polyvalent

serum in other cases. I believe this serum may be very helpful in some cases.

CONCLUSIONS.

The monovalent antidysenteric serum is too uncertain in its action for general use; the polyvalent serum should be tried in all severe cases of summer diarrhea.

Physiotherapy in the Cure of Cancer.

By J. A. RIVIÈRE, M.D.,

PARIS, FRANCE.

A Communication made to the Académie de Médecine, December 8, 1903.

OBSERVATION I.

MADAME X, aged 64 years, had developed during the past six months a large number of rapidly-growing tumors of the type "excroissance sarcomateuse douloureuse." (Histologic examination by Darier). This form of lymphoma was first described by Billroth under the type of sarcoma alveolaris, and is an exceptionally grave form.

Their location in this case was the face, neck and arms. The radioscope revealed a thick mass, completely filling the mediastinum, and compressing and surrounding the trachea and bronchi.

Treatment with the x-ray resulted in marked improvement after the fifth séance. After the fifteenth séance there existed almost no trace of the growths. Several severe attacks of erythema occurred during the course of treatment.

The applications were as follows: Daily exposure to the x-ray for ten minutes, followed by bipolar applications of the high frequency current; then spark of 40c, capacity of condensation 0 microferad 66; 1200 interruptions to the minute. Primary current 80 volts, with 6 amperes interrupted. Quality of rays, No. 7 of Benoist's radiochrometer; anticathode at 20 to 25 centimeters from the skin.

The patient was presented at the meeting and the case is regarded as cured, although she still receives occasional treatment with the static breeze.

OBSERVATION II.

Madame Y, aged 50 years. Operated on by Walter two years ago for parotid sarcoma. Recurrence was diagnosed six months after the operation. About one year later the patient presented at the site of the operation a mass the size of an apple, in the center of which was a deep cicatrix, resulting from the operation; it presented a marked reddish color, indurated borders, uneven masses and was very painful, especially when the patient spoke or swallowed. Several submaxillary masses were present.

After the fifteenth application of the treatment with the x-ray there was seen a noticeable atrophy of the mass and a partial disappearance of the sclerotic induration. Complete disappearance of four of the masses and diminution in the size of the submaxillary enlargements. Her general health is improved and she suffers no pain.

OBSERVATION III.

M. Z, aged 61 years. Operated on twice; in Paris fifteen years ago by Jonque, and again, five months ago, in London. The first operation was performed for a papilloma, the second for an epithelioma, at which time tracheotomy was done and half the tongue removed.

Butlin, of London, diagnosed epithelioma of the parotid and anterior triangle glands, from histologic examination.

The treatment of this case was by static electricity, the x-ray and the high frequency current.

Result: Complete disappearance of all pain, improvement of the tongue scar and disappearance of the cervical masses. The patient has improved a great deal in health. This case was presented at the meeting.

OBSERVATION IV.

Ulcerating carcinoma of the breast. The patient was treated in June, 1901. Ulceration of right breast, tumefaction and induration present; ulcer discharging a fetid, ichorous pus; subclavicular and axillary involvement. Histological examination made at the laboratory of the Faculty of Lyon showed carcinoma.

The treatment consisted of forty exposures to the x-ray, followed by the high frequency current.

Result: Complete cicatrization and disappearance of induration and glandular involvements, a gain of 11 pounds in weight. The cure required nine weeks.

OBSERVATION V.

Madame V, aged 51 years, uterine carcinoma, recurrent, was operated on in 1900; amputation of the neck for vegetating epithelioma

The x ray treatment of this case was begun in 1901, after the diagnosis of cancer had been made at Bruxelles and Paris. A series of twenty exposures of five minutes each, followed by the high frequency current for fifteen minutes, produced only a slight effort at cicatrization of the ulcerations. There was, however, a disappearance of the fetid discharge and of the hemorrhages which occurred almost weekly.

The patient is still under treatment and the vegetating aspect of the tissues has disappeared. It is expected that she will get well.

OBSERVATION VI.

M. J., aged 46 years; epithelioma of the esophagus. Diagnosis by Bécclère and Soupault. Dysphagia began two years ago and increased steadily. Two months ago the esophageal bougie could not be passed, swallowing was impossible. Rectal alimentation was instituted.

Treatment: Topical electrolysis of growth, followed by daily treatments with x-ray and static breeze. Ten days later electrolysis was again practiced in the presence of Dupuy, Philippeau, Collet, Robinson, Bull and others. Improvement was noted after this séance, and swallowing of milk and egg was accomplished. Sometime later electrolysis was again practiced before Dr. Hill, of New York. This time the electrolysor passed the neoplasm without the aid of the current.

Radioscopic examination negative. Two months before the radioscope had shown the tumor to be of considerable size. This patient has, therefore, received marked benefit, although he is not regarded as cured.

Another case, that of epithelioma of the orbit in a woman, treated by Darier with radium unsuccessfully. X-ray treatment has determined a subsidence of the pain and discharge. The case is improving after the sixth séance.

Many observations on the cure of cancer by Roentgen rays have been reported to the Academie this year. Cancer of the stomach by Doumer and Lemoine, reported by Albert Robin; cancer of the breast by Vigouroux, reported by Cornil; cancer of the breast by Labbé; generalized lymphoma by Darier, reported by Cornil. Other cases are mentioned by D'Arsonoval, by Biraud of Poitiers, Foveau de Courmelle of Paris, Shiff of Vienna, Mikulicz of Breslau, Mondain of Angers, Grubbe, Morton, Steubeck, Williams, Coley, and Turner of the United States.

It is said that already upwards of one hundred cases are recorded where three things particularly are noted: Disappearance of pain and ganglions, retrogression more or less complete of the tumor and decided amelioration of the general health.

CONCLUSIONS.

1. Physiotherapy should be looked upon as a useful method to obtain retrogression of malignant tumors, a sedative action and a disappearance of glandular engorgement from such source.

2. Physiotherapy becomes the only possible recourse in inoperable neoplasms, especially to be used in the vegetating or ulcerating forms, in recurrences after operative ablation and as an agent to complete the action of such procedures.

3. Physiotherapy in this matter consists of radiotherapy, static breezes, Franklinisation, high frequency currents, static baths, Arsonvalisation, etc. Calomel and quinin with eliminatives are often of use.

4. The effect of physiotherapy in these cases are: Disappearance of edemas, engorgements and indurations, cessation of pain, cicatrisation, disappearance of cachexia and disappearance of tumor.

5. The field exposed for treatment should include a wide area around the tumor.

Experiments on the Preservation of Milk.

By C. A. SNODGRASS,

ST. LOUIS, MO.

CITY BACTERIOLOGIST.

SOME time ago the City Chemist requested me to furnish data upon milk when subjected to natural and artificial conditions, with the view of ascertaining the most rational method of obtaining, preserving and dispensing the same in a commercial way.

This work has been gone over so often by competent observers, and the facts are so well established, that it seems a waste of valuable time to repeat the experiment. However, in order to give the matter some local support, I have most cheerfully made a limited number of observations, and herewith submit my results and deductions.

In making my observations, I sought to answer the following questions, viz :

1. What is the effect upon milk both macroscopically and bacteriologically, when kept at room temperature (25°C. or 77°F.) without the use of a chemical preservative?
2. How does refrigeration of milk at 7°C. or 44.6°F. effect it both macroscopically and bacteriologically?
3. How is milk effected macroscopically and bacteriologically when there is added formalin (39.35 per cent formaldehyd gas) in such proportions that the final dilutions are—formalin 1 in 10,000, 1 in 25,000 and 1 in 50,000, the milk being kept at room temperature (77°F.)?
4. How is milk effected by the addition of formalin in such proportions that the final dilutions are—formalin 1 in 10,000, 1 in 25,000 and 1 in 50,000, the milk being kept at 44.6°F.?
5. How is sterile milk which has been infected with bacillus typhosus effected by the addition of formalin in such proportion that the final dilutions are—formalin 1 in 10,000, 1 in 25,000 and 1 in 50,000, the milk being kept at room temperature (77°F.)?
6. How rapidly do typhoid bacilli multiply when put into sterile milk, to which there had been added no preservative, the milk being kept at room temperature (77°F.)?

The answer to the first question is found in Table I. The milk examined was obtained from the St. Louis Dairy Co., and had an original bacterial count of 280,000 per cc. At the end of twenty-four hours the milk was sour and showed a count of 190,500,000. No plates were made for the second day.

Table II shows that by refrigerating milk without the use of a preservative it was kept sweet for four days and that the bacterial count was not, comparatively, much higher on the second day than it was on the first day, when the milk was kept at room temperature. Observations were not carried beyond four days.

The data in Table III shows that the addition of formalin to this milk in the proportion of 1 in 10,000, 1 in 25,000 and 1 in 50,000 had little or no effect upon the bacterial count and that the milk remained sweet for only twenty-four hours at room temperature when the dilution of formalin was 1 in 10,000.

Table IV shows that when refrigeration and formalin were both used the bacterial count was kept down and the milk remained sweet for four days. Observations were not carried beyond this time.

It is shown in Table V that the number of organisms in typhoid-infected milk, kept at room temperature, are reduced when the dilutions of formalin are 1 in 10,000, 1 in 25,000, and they are increased when the dilution is 1 in 50,000.

Table VI shows that the number of organisms in sterile milk infected with typhoid bacilli are increased at a rapid rate when the milk is kept at room temperature.

SPECIAL CONCLUSIONS.

1. From Table I, we must conclude that ordinary commercial milk, kept at room temperature, is for most purposes unwholesome at the end of twenty-four hours, to say the least.

[As here used we mean by unwholesomenes that the milk was sour to taste. It has no reference to the bacterial contents nor to the products of bacterial action.]

2. From Table II, we must infer that ordinary commercial milk kept at 44.6°F. remains wholesome for four days or more.

3. From Table III, we must conclude that ordinary commercial milk does not remain wholesome for twenty-four hours

when kept at room temperature by the addition of formalin, 1 in 25,000 or 1 in 50,000, and questionably so when the dilution is made 1 in 10,000.

4. Table IV shows us that by adding formalin to refrigeration the wholesomeness of milk is improved only when the dilutions are made 1 in 10,000 and 1 in 25,000.

5. From the rapid increase of the bacillus typhosus, as shown in Table VI, we must conclude that milk infected with pathogenic organisms whose rate of increase is about the same as that of bacillus typhosus becomes rapidly dangerous when kept at a temperature of 77°F.

GENERAL CONCLUSIONS.

1. From Tables I, III and VI, we must conclude that commercial milk will not remain wholesome when kept at a high temperature (77°F.) though formalin be added in permissible quantities.

2. We must conclude from Tables II and IV that refrigeration is far more efficacious than the use of formalin without refrigeration in the preservation of commercial milk.

TABLE I.

Milk, Room Temperature, 25°C. No Preservative.

	Original.	1st day.	2d day.
	280,000.	190,500,000.	No plate.
Macroscopic		Sour.	Sour.

TABLE II.

Milk, Refrigerator, 7°C.

	Original.	1st day.	2d day.	3d day.	4th day.
	280,000.	12,600,000.	222,250,000.	—	—
Macroscopic		Sweet.	Sweet.	Sweet.	Sweet.

TABLE III.

Milk, Room Temperature, 25°C. Formalin.

Formalin dilution.	Original.	1st day.	2d day.
1 to 10,000	280,000	Innumerable.	No plate
Macroscopic		Sweet.	Sour.
1 to 25,000	280,000	Innumerable.	No plate
Macroscopic		Sour.	Sour.
1 to 50,000	280,000	Innumerable.	No plate
Macroscopic		Sour.	Sour.

TABLE IV.

Milk, Refrigerator, 7°C. Formalin.

Formalin dilution.	Original.	1st day.	2d day.	3d day.	4th day.
1 to 10,000	280,000	400,000	4,500,000	—	—
Macroscopic		Sweet.	Sweet.	Sweet.	Sweet.
1 to 25,000	280,000	500,000	15,000,000	—	—
Macroscopic		Sweet.	Sweet.	Sweet.	Sweet.
1 to 50,000	280,000	1,200,000	165,000,000	—	—
Macroscopic		Sweet.	Sweet.	Sweet.	Sweet.

TABLE V.

Sterile Milk infected with Typhoid Bacilli, Room Temperature, 25°C.

Formalin.

Formalin dilution.	Original count.	Number of colonies at the end of 24 hours.
1 to 10,000	33,800	2000
1 to 25,000	33,800	8500
1 to 50,000	33,800	66,000

TABLE VI.

Sterile Milk infected with Typhoid Bacilli, Room Temperature, 25°C.

No Preservative

Original number of Colonies.	No. of Colonies at end of 24 hours.
33,800	68,580,000

Control sterile.

A Brief Note on Frost-Bite in Young Children.

By W. A. HARDAWAY, M.D.,

ST. LOUIS, MO.

PROFESSOR OF SKIN DISEASES IN THE WASHINGTON UNIVERSITY.

THE following brief notes taken from my case-book will illustrate sufficiently well the condition to which I wish to call attention

CASE I.—A. M., aged about 2 years, a fat blond girl baby, was referred to me by Dr. W. E. Fischel. Both cheeks were the seat of a sharply defined somewhat dusky erythema. The child was restless, evidently suffering some pain or extreme discomfort, and had a temperature of about 101°F. The glands in the neck were slightly enlarged.

With the exception of the fact that the erythematous area just mentioned was quite well-defined, the condition might have been mistaken for an ordinary flushing of the cheeks from fever. Upon a closer examination, however, it was found that the flush area corresponded to a deep infiltration of the tissues, which could be picked up, as it were, between the fingers; indeed, manipulation of the parts gave the impression of an imbedded solid mass. The epidermis was smooth and unaltered, and at no time presented any vesicles or blebs.

It was feared at first that suppuration might occur, but, gradually, in the course of a week or ten days, perhaps aided

somewhat by treatment, the doughy mass resolved itself and the parts became normal, although the dark flush persisted for some while longer.

It seems that this child had been sitting next to the open window of a carriage during a drive in very bitter weather, and the cheeks, the only parts exposed, had been frost-bitten.

The following winter the cheeks were again attacked under exactly the same circumstances, although not quite so severely.

CASE 2.—D. T., aged 2 years, blond boy. The patient was sent to me by Dr. George Tuttle. In this case also the child had been out driving in very cold weather, and the only parts attacked were the exposed cheeks. The symptoms were about the same as in the other case. Until attention was called to the deep circumscribed infiltration, it was supposed that the child was suffering from a persistent erythema of the cheeks.

CASE 3.—J. W., aged 2 1-2 years, blond boy. The details of this case need not be given, since the symptoms, etc., were the same as in the preceding cases. Contrary, however, to the usual course, a persistent, dark erythema, and some quite appreciable infiltration could be detected for more than a month after the exposure.

In a number of young children that have come under my observation, especially fat subjects, the neck under the chin has been the seat of trouble, a part that as often goes unprotected as the cheeks.

As regards the local treatment of this condition, I find that the unguentum vaselini plumbicum, stiffened with about 12 per cent zinc oxid, affords the best relief. The salve should be evenly spread on muslin and applied neatly to the parts. Ichthyol has not given as good results.

There is, of course, nothing especially novel, pathological or otherwise, in these cases, except, perhaps, the comparative frequency with which just a certain degree of congelation may present itself, and the apparent lack of familiarity that most physicians seem to have with the condition. I have no doubt that in colder climates the accident is well known.

I may mention in conclusion that so far as I can recall nearly every child attacked has had a fair complexion and light hair.

Pregnancy Complicated with Cyst of Ovary.

Operation, Recovery. Report of Case.

By CHARLES H. DIXON, M.D.,

ST. LOUIS, MO.

CLINICAL LECTURER ON SURGERY, MEDICAL DEPARTMENT OF
WASHINGTON UNIVERSITY.

PATIENT, Mrs. W., aged 28 years, married; nativity, United States. Parents living, aged between 70 and 80 years, both in good health; one sister living and in fairly good health; none are dead. The patient has always enjoyed fair health. First menstruation at 13 years, not regular nor painful. She has been married eight years; has had three children—one 6 years old, one 3 years old, and one was born dead. The living children are in good health. One miscarriage about five years ago at the second month of gestation. Her last confinement was about one year ago; menstruated before this pregnancy irregularly and profusely. Noticed no unusual symptoms outside of those generally found in pregnancy.

This pregnancy was complicated by a large cyst blocking the outlet and preventing parturition; she had been in labor several days, when a physician was called. The cyst was tapped through the vagina and the child delivered dead. She made an uninterrupted recovery.

After this confinement she menstruated regularly up to the first part of April, 1903. Since then she has had the usual stomach symptoms, also an increased frequency in micturition more than usual in this early stage of gestation. She noticed also a rapid increase in the size of the abdomen; this enlargement was on both sides, but a little more on the left. In July, 1903, examination showed a decided swelling on both sides of the median line extending as high as the umbilicus; on the right side the growth was pear-shaped, the lower portion being about one inch above the pubic bone; that of the left side

was broader and extended into the pelvic cavity and was of less consistency than that of the right side.

On separating the labiæ the posterior wall of the vagina was seen protruding to almost on a level with the outlet. The introitus vaginæ was small, just admitting the finger and lying just back of the pubic bone. The canal was directed upward and forward, and to the right, and ended about one inch above the ramus of the pubis, and one and a half inches to the right of the median line. The cervix was distinctly felt and the swelling on the right side was quite movable on palpation. Pressure on the growth on the left side from above downward caused decided bulging at the vagina. Fluctuation was distinct on palpation.

Diagnosis: Pregnancy complicated with cyst of the left ovary.

On opening the abdominal cavity a large unilocular cyst presented. The cyst extended so close to the uterus that in excising, a portion of uterine tissue was removed and hemorrhage was quite severe but was controlled by sewing through the uterine tissue. There was little or no trouble removing the cyst.

The day after the operation the uterus had assumed its natural position and there were no untoward symptoms; all bladder symptoms subsided, and she left the hospital in three weeks.

From the time of her last delivery to the time of this conception she noticed no increase in the size of her abdomen, nor was there any bladder, rectal or any symptoms of pelvic disturbance.

She expects to be again confined in January, 1904.

Treatment of Stye.

The lash is removed from the center of the inflammatory area. The swelling should be carefully touched with tincture of iodine or pure carbolic acid. Where there is any pus it should be released by a small incision. Warm applications will lessen the pain. A weak mercurial ointment will generally cause the disappearance of the remaining thickening of tissue. The diet should be regulated when there is reason to believe that the condition is due to general constitutional atony.

—*International Clinics.*

LEADING ARTICLES.

IS THE USE OF FORMALDEHYD AS A MILK PRESERVATIVE HARMFUL?

One of the greatest problems of modern economics is the preservation of milk. With the growth of our large cities, with the absorption of suburban farms by the ever-advancing builder, the task of supplying fresh clean milk to the city becomes each year more formidable. The milk must be shipped a long distance, the time between milking and consumption becomes lengthened and, consequently, the liability to souring becomes much greater. How shall this deterioration be prevented? Science has answered this question very plainly—by the use of ice and absolute cleanliness in milking and handling. The subject is extensively discussed in "Bulletin No. 88," of the Maryland Agricultural Experiment Station, in a brochure entitled "Economical Methods for Improving the Keeping Qualities of Milk"

But the carrying out of these scientific suggestions necessitates much trouble and expense and, consequently, the average dairyman seeks cheaper and less troublesome means to attain the same end. Hence has arisen the use of milk preservatives and scientific study has been directed to this important subject.

It must be admitted that the proliferation of germs in milk is very rapid unless the temperature is very low, and this increase often causes the formation of toxic bodies which are dangerous to infants and invalids. Any means, therefore, which shall check the growth of bacteria must be viewed as distinctly advantageous, provided the means is in itself not harmful nor causes changes in the milk which makes it less wholesome. Theoretically, then, the use of a preservative which will be effective in checking bacterial growth and be absolutely harmless to the human system, infant and adult, would be a great boon to humanity.

Many preservatives have been tried—borax, boric acid, salicylic acid, etc., but the principal interest at present centers in the use of

formaldehyd. since, theoretically and practically, it seems to be the nearest to the ideal antiseptic.

For five years, now, the controversy has been going on; on the one hand certain authorities hold that in the strength usually employed—1 to 10,000, formaldehyd is not the least harmful to the human organism and greatly benefits the milk, since it prevents the formation of putrefactive products; on the other hand, a majority of experimenters speak very sharply against its use, since its innocuousness has not been demonstrated and its use would encourage carelessness in obtaining and preserving milk.

In 1899, a Commission was appointed by the British Government to investigate the use of preservatives, and while much investigation was done the final report was not conclusive. This Commission found the use of preservatives very extensive in England, and since then the practice has become very common in the United States; hence the seriousness of this problem.

The opinions of physicians given in the report of the Commission have no specific value but they illustrate very well the arguments that are being employed for and against the use of preservatives.

AGAINST THE USE

Because there is no tangible evidence of injury to health is no proof that no injury might arise from the indiscriminate use. The vendor and not the consumer are benefitted. Milk, which is not fresh, is made to appear so—De Pavy.

Any antiseptic constantly present can hardly be beneficial to the alimentary canal, even the disinfection of the canal is a doubtful blessing.—Dr. Allen.

Extended use may show great harm, both as to time and number of individuals.—Woodhead.

Several physicians really believe that certain outbreaks of diarrhea were caused by the preservatives.

Again, many physicians testified that they had seen positive harm from antiseptics, and found that milk infections were not diminished by their use.

FOR THE USE.

Poisons are formed by the composition of food products, and the antiseptics are the least harmful of the two.—Dr. Brunton.

Dr. Kaye found that the mortality of infants had increased and believed this increase was due to the use of milk preservatives.

Experiments on the digestion of milk preserved by formaldehyd are somewhat contradictory, but mostly go to prove that proteolytic enzymosis is inhibited. Experiments on animals have been almost uniformly negative. Hall fed pigs on formaldehyd preserved foods and they gained in weight and remained in good health.

At the Maryland Agricultural Experiment Station they fed calves on formic aldehyd in milk with no harmful results. A very important work was done by Annette, who found that very young kittens do not thrive on milk preserved with formaldehyd; most of his kittens died at the end of a few weeks while the controls lived. The experiment still stands immovable against all the powerful arguments in favor of the use of this antiseptic. For what value is it that bacterial disintegration and infection is minimized if the agent acts deleteriously?

Hall and Hammond fed three children with a mixed food containing formaldehyd in the proportion of 1 to 9,000, and in the case of two healthy boys it seemed to stimulate digestion. But in the case of a sickly child the preservative had just the opposite effect.

A very thorough study of the influence of milk preservatives on children was made by Tunncliffe and Rosenheim (*Jour. Hyg.*, Vol. I, No. 2) who, among other tests, report the observation on feeding three children on formic aldehyd in milk (1 to 5,000 and 1 to 9,000), and only in the delicate child was any bad influence noticeable. The figures suggest, however, that formic aldehyd has a tendency to diminish phosphorous and fat assimilation. In the case of the delicate child formaldehyd had a chemically measurable deleterious effect upon the nitrogen, phosphorus and fat assimilation referable to an action upon the pancreatic digestion.

A strong impetus to the further experimentation on the subject has been given by Behring (see Leading Article following), who has also found that formaldehyd in milk is harmless to calves, and its addition to the milk preserves enzymes and antibodies.

Dr. Richter, of St. Louis, has become an ardent advocate of the use of formaldehyd as a milk preservative and while we must admit that the evidence of the harmfulness of this drug is rather meager we must still adhere to the original assertions made in a previous editorial (December, 1903, number) and to which Dr. Richter takes exception

(correspondence, February number). The constant use of ethyl alcohol in the young is fraught with danger and what disturbances may be caused by the ingestion of this poisonous gas? We do not know. How could its use be regulated? It would be difficult. We did not assert that formaldehyd was changed to methyl alcohol, but merely called attention to the nerve lesions induced by the latter which possibly may be caused by the former. The causation of such nerve lesions may depend on a prolonged ingestion of the antiseptic but they may come. At any rate it devolves on the advocates of this drug to prove that none are produced.

As is well shown in this number in a paper by Mr. Snodgrass the pathogenic bacteria are not killed, their growth is delayed. Similar experiments made by the editor a few months ago also clearly demonstrated that pathogenic germs (typhoid and colon bacilli) are not killed but their growth is inhibited for a time. Infection induced by contaminated milk can thus not be obviated.

We have in *cleanliness* and *cold a harmless and effective* means of doing more than any antiseptic can do without the least danger of ultimate deleterious results on the human organism. *Our efforts should be directed in teaching dairymen the art of asepsis, and means should be invented to cheapen milk refrigeration.* It may be years of general use before the objectionable features of the antiseptic can be discovered or its absolute innocuity be demonstrated.

While we will search and study we must be slow to recommend the use of a drug which, as soon as its value is extolled by physicians generally, will become a part of our daily food.

We are, therefore, opposed to the placing of formaldehyd on the list of harmless milk preservatives.

INFANT'S MILK AND INFANT MORTALITY.

Since we give considerable space to the problem of preserving milk by formaldehyd, a review of a recent article by von Behring, one of the modern masters, relative to this important subject will be found timely. In an article entitled "Infant's Milk and Infant Mortality," (*Die Therapie der Gegenwart*, January, 1904) he states that since he found certain tuberculosis immune bodies in the milk of cows which had been immunized against tuberculosis, he found it necessary to in-

investigate the best methods of preserving milk. As it is impossible to obtain milk in a relatively sterile condition, as for example, serum, the problem is more difficult. Even with the greatest aseptic precautions milk will contain at least several hundred bacteria to each cubic centimeters when obtained from the cow. With ordinary measures of cleanliness it always contains several thousand germs to each cubic centimeter. These bacteria become enormously increased when the milk is kept for any length of time and certain decomposition products are formed. In this decomposed milk the immune bodies are no longer demonstrable. He excludes all chemicals, with the exception of formaldehyd, as milk preservatives, on the ground that they are harmful to the human organism. He was unable to find any deleterious effect of formaldehyd in the usual dilutions employed. In dilutions of 1 to 4,000 or more, animals never failed to take it. Even in stronger dilutions it was perfectly innocuous. Yet he was able to keep milk eight or ten days by employing this preservative.

Formalin milk, 1 to 10,000, fed to young calves produced no disturbances and seemed to be even better than milk fed without this preservative, since diarrhea occurred in many fed on pure milk but none fed on this preserved milk.

Milk heated for several minutes to 60°C. loses much of the immune bodies, not so with the formalin milk.

Milk contains several forms of antibodies, one of the most striking is the bactericidal effect on the colon bacillus, which Behring employs to test the presence of immune bodies

Even moderate heating weakens or destroys this immune body against the disease - producing colon bacillus; hence, for the human nursling, raw milk is the natural and most healthful diet, and the death rate in large cities may, in a measure, be explicable to the general use of boiled milk.

[This is an extraordinary assertion in face of indubitable evidence that pasteurization diminishes infant mortality.—ED.]

He believes that the good results of goat milk are entirely referable to the practice of giving it raw and fresh and not to any intrinsic chemical constitution.

Behring, furthermore, declares that the great danger of using raw cows' milk is the frequency with which it conveys the tubercle bacillus, but this danger can be almost entirely obviated by using his method

of protective inoculation against tuberculosis ; in fact, only such immunized cows should be utilized for the infants' milk supply.

He concludes, freely translated, as follows :

I would regard it as a great victory of my teachings, when families, communities, physicians and state officials should be impressed that, not boiled milk, but the genuine milk obtained from tuberculosis-free cows is the best substitute for mothers' milk for infant feeding.

If I am not deceived altogether, the method of preserving milk, where fresh milk is unattainable, which will play a conspicuous part in the future, is not heat but the chemical method, and with which I am experimenting at present.

[It will be seen that Behring has high hopes of having solved the whole milk problem.—ED.]

THE INFLUENCE OF THE PUBLIC SCHOOL IN ITS RELATION TO PSYCHOSIS.

By M. A. BLISS, M.D., St. Louis.

A very pointed remark on this subject was made by Dr. Herdman in his paper before the Fifty-fourth Annual Session of the American Medical Association :

"Public school methods can not be justly charged with either the development or aggravation of psychoses in the children subjected to them until we can eliminate as causative factors—

1. Conditions that antedated the school period and its influence on the child, and
2. Such causes as may be operating on the child outside of school hours and school environment."

It is true that there are many factors in the production of various forms of nervous affections but it is, perhaps, the factor of heredity which is of greatest importance. Granting this it would not be hard to conclude that psychoses and neuroses occur in spite of, rather than a result of school training.

It would seem that in certain cases a closer acquaintance of teacher with parent were necessary so that unfavorable influences of home environment might be offset. Those parents whose own disorders of nervous temperament are reproduced in their children, could

hardly be supposed to be well adapted to eradicate the very fault of which they have themselves been sufferers.

Our own observations convince us that in the most number of instances the regular hours of discipline, the example of stable children, the force of continued observation, all tend to better self-control and a consequent increase in self-respect and confidence.

A rigid curriculum made to apply to all coming under its influence may produce injury in very susceptible children. However, scientific study of this phase of school instruction is constantly producing more elasticity and better adaptation.

We know of no professional class more alive to the needs of their work, more quick to appreciate new suggestions which are good, than the teachers themselves. Let the medical profession indicate from its standpoint what seems necessary and the teaching profession will quickly absorb and make useful the best part of the suggestion.

EDITORIAL COMMENT.

Behring and the Preservation of Milk.

We publish several articles relating to the preservation of milk by the use of formaldehyd. Most astounding is the announcement of von Behring that he has discovered a new harmless milk preservative, namely, formaldehyd. He seems not to have studied the great amount of literature on the subject, neither does he refer to similar experiments to his own, that is, feeding young calves on formaldehyd milk, made here in America. He announces a very important discovery which apparently is new to him but which really has received much consideration in England and America. This is another instance where Germans take the credit of an American investigation.

The Mortality of Infants.

Reports from the European cities reveal the sad fact that infant mortality is still very high, especially so in Germany. This is deplorable in view of the immense amount of work done in preventive medicine. What is wrong, the food or environment? Shall we give the

principal attention to the eradication of pathogenic factors or the increase of infantile resistance? No doubt, both sides should receive study. Evidently, the latter part of the question is where the chief difficulty lies. Behring seems to think that boiling milk has much to do with this high mortality. Other authorities will probably find the use of dessicated foods at the bottom of the trouble. Since the virulence of pathogenic bacteria does not seem to be increased it would seem that individual resistance of the infant should be augmented in every possible way. But how? This is the most burning question of modern pediatrics. The nursing mother is failing us. What is the best substitute? Behring's is formaldehyd milk from non-tuberculous cows; but he speaks entirely from theoretical grounds, the pediatricists will doubt his conclusions. The solution is not so simple.

Smallpox on the Increase.

From Philadelphia and other cities comes the report that smallpox is rapidly assuming the prevalence of an epidemic. Fortunately, the type of the disease is mild, but in view of the fact that thousands of people will assemble in St. Louis the coming summer, many of whom will convey the virus of the disease, it will be wise to encourage vaccination in this city. Especially should all World's Fair visitors be thoroughly vaccinated, since in their traveling to the city exposure to smallpox is possible and physicians everywhere should instruct their patients on the importance of this prophylactic measure.

Food Preservatives and Health.

For a long time the medical profession had almost a solid front against the use of food preservatives. The people in general also had very definite convictions on the subject. It will be recalled how, during the Spanish war, when it was announced that our soldiers were fed on "embalmed beef," the public press unanimously denounced the method as infamous and the Secretary of War to this day has not outlived the odium cast upon him at the time. But it seems that we are becoming accustomed to preserved foods; borax and salicylic acid do not fill us with horror, and formaldehyd is welcomed as a life preserver.

Eccles (*Med. News*) in a recent article discusses all the evidence against the ordinary food preservatives and argues very forcibly that legislators have no right to interdict their use. His argument is based on the ground that the harmlessness of salicylic and boric acid is unproven, while the harmfulness of foods decomposed by bacteria is universally acknowledged.

Eccles' article deserves study, but it must not be received as the final truth. Yet, it must be admitted that physicians are prone to become too dogmatic on theoretical grounds. To approve all innovations because they conflict with preconceived principles is no science.

Schmidt's Cure for Cancer.

Some time ago Schmidt, of Cologne, Germany, declared that he had discovered the parasite of cancer and had even succeeded in cultivating it. While several critics plainly demonstrated that his parasites were artefacts, he continued his researches and finally announced the discovery of a specific serum. It was claimed that this serum had a specific effect on the cancer cells, but the method of manufacture was kept secret. The therapeutic serum was recently tried in a few cases at St. Bartholomew's Hospital without attaining any encouraging results. Thus another "cure" has been shown worthless.

Medical Inspection of Schools.

There can be no doubt that one of the principal sources of disease in childhood is the commingling of children at school, and it is to be regretted that parents, anxious that their child shall advance in studies as rapidly as possible, are by no means careful to keep their child away from school on the ground that he may be dangerous to others. Mild cases of scarlet fever, diphtheria, measles, etc., or cases during convalescence are permitted to mingle with other children and in this way the epidemic is kept up indefinitely. Physicians should teach parents that their child, whether he is suffering from influenza, chickenpox or any infectious disease is dangerous to others. It is only in this way that any headway can be made against the common diseases. Another solution of the problem is the daily medical inspection of the schools, a procedure which has already won many suc-

cesses in all cities where it has been instituted. Undoubtedly it will be adopted in all large cities in the near future, and there is no preventive measure which will be rewarded with greater results. But legislators are very slow in appropriating money for any institution of this kind and it is the duty of the physician to educate the public in the importance and practical value of the medical inspection of schools.

The Rabbit Lope.

The *Medical News* has made itself merry over the report that a new disease has been discovered in the South and West, the direct result of the Beef Trust. The etiology is the excessive consumption of rabbits (*Lepus cuniculus*). The symptoms are a dilated pupil, a peculiar stare, gumming of the lips and elongation of the ears. But the most characteristic symptom is that the patient is "unable to avoid making sudden bounds into the air." The prognosis is good, provided the cause is removed, which is by no means always possible. We have also noticed a great tendency to crawl into holes during the stormy weather, a symptom overlooked by other observers.

Two Tuberculosis Congresses and Exhibitions.

The International Congress on Tuberculosis will meet in St. Louis, October 3-5, 1904, which was founded several years ago by Clark Bell, a lawyer of New York. Another congress—The American Congress on Tuberculosis for the Prevention of Consumption, will meet in Washington, D. C., April 4-6, 1905. Dr. Daniel Lewis, of New York, is President. It is difficult to appreciate why two independent National Congresses on tuberculosis should exist. Where has been the trouble? One looks in vain to find some eminent American clinicians among the officers of these congresses. Probably the suggestion of Knopf should be generally adopted, namely, that at the Baltimore Tuberculosis Exposition all interested should meet at a certain date and come to some agreement regarding a National Tuberculosis Congress. It certainly does not speak well for the success of the St. Louis Congress when there is a rival association, and none of the medical leaders be connected with its management and no authority on tuberculosis giving it his support.

We trust that President Francis will correspond with some of the leaders of prophylactic movements and have a new congress organized which shall truly represent our national medical societies and have the confidence and respect of all medical and scientific men.

MEDICAL RESEARCH.

Review of Progress in Physiology, Physiological Chemistry, and Experimental Medicine.

In Charge of A. S. BLEYER, M.D.

The Blondlot Rays.

The emanation of radiant energy in the form of light from the human body is a fact. It has recently been made the subject of interesting experiments by Charpentier.

The origin of these rays described by Blondlot and called by him N-Rays, is yet obscure; of one thing we are sure, they are the product of physiologic activity, at least of muscle and nerve tissues, and they are not, as was supposed, the simple outpouring of luminous waves stored up in the body from sunlight. The above experimenter finds their activity undiminished after the body has been kept in a dark room for a period of nine hours.

His method of detecting the presence of the N-Ray lies in the use of an already luminous salt, *e.g.*, the platinocyanid of barium. When it is approached to the body it becomes distinctly fluorescent, and the intensity of the reaction depends upon its closeness to the body and upon the physiologic activity of the tissues at the moment.

The physiologic activity of a nerve will permit the tracing of its course, be this nerve fairly superficial or else of not too small diameter. If it be deep, there will be interference with its radiations, because of the emanations from the muscle tissues lying over it.

A most interesting matter is that concerning the heart. It is found that by passing the salt slowly over the chest that it becomes entirely simple to sharply outline it, since this organ is in practically continual action.

The N-Rays pass slowly through certain substances, while other substances are opaque to their radiations. They are not the results purely of heat radiations, since a calorimeter can be interposed with-

out interfering with their action and without recording any elevation of temperature.—*Le Progres Med.*

Fibrin Precipitation.

The idea that the death of leukocytes is a necessity for clot formation in blood is probably not tenable. It was believed that the ferment substance which they carry could not be active without their death; and that this substance—thrombin, was alone responsible for clotting of blood. The fact that Maurel (*Gaz. Med. de Paris*, December 12, 1903) has found that the death of leukocytes and even their disintegration frequently occurs without clotting, and that clotting may occur while the leukocytes retain their normal activity would lead us to believe that if thrombin is really at the base of such phenomena, that its source must not be from dead leukocytes.

Reproduction of Tissue Cells Outside of the Body.

The integrity of tissue groups, such as those composing the heart and the skin, is known to be maintained after the separation of such groups from all connection with the parent organism. After which manner skin-grafting becomes a possibility and the beating of the heart can be for a surprisingly long time continued after its removal from the body.

Jolly (*Le Progres Med.*, November 21, 1903) finds that leukocytes can be made to live *in vitro* for one month.

The leukocytes from the blood of batrachian animals show even a greater inherent vitality. Karyokinesis was observed to occur in these cells as long as fifteen days after their removal from the body. The karyokinetic changes occur slowly, although the nuclei seem to retain their activity very well. The protoplasm of these cells, however, soon becomes paralyzed. The observation demonstrates the fact that reproduction of tissue cells is possible outside of the body. Like observations have been made with certain eggs. These phenomena may account for the unexplainable existence of so-called giant cells in certain tissues.

Effect of Meat Diet on Chickens.

Houssay (*Ibid.*, December 12, 1903) finds that an exclusive meat diet on hens has the following results:

1. Increase in weight of body.

2. Increase in size of eggs. This does not continue after the second generation, when the size seems to return to normal.

3. Diminished success in incubating the eggs; the number of successes being about equal to the number of failures obtained with the eggs of hens on their accustomed foods.

4. Preponderance of male chicks, *e.g.*, six males in seven eggs—a rather exceptional state of affairs.

5. Diminution of combative tendencies.

From these observations, Houssay makes the following deductions:

a. Alimentary intoxications are manifested in the offspring, in other words, such intoxications are hereditary.

b. The dietary regimen has a definite and incontestable action on the germinating fetal layers.

c. Certain intoxications can be causatively related to sterility.

d. They cause arrest of development in the offspring.

e. They are responsible for precocious death in the offspring.

f. That a progressive accentuation of the intoxication occurs in the procreator with a progressive and proportionate effect on the offspring.

g. That such intoxications result in the productions of an excessive number of male offspring.

Efficacy of Radium.

Definite conclusions regarding the therapeutic efficacy of radium are being earnestly sought after. The recent experiments of London with radium bromid show that mice are killed even without direct exposure to the rays, but by being placed in proximity to a small quantity of radium bromid in a rubber and metal box. It appears to have a selective affinity for the cerebrospinal nervous system. Exposure of the skin to radium bromid produces a so-called "cold gangrene." Two Russian boys, blind from atrophy of the optic nerve, were taught the letters of the alphabet by the aid of radium, which silhouetted the letters so that they could be readily discerned.

DIAGNOSTICS.

In Charge of W. L. JOHNSON, M.D.

Facial Paralysis.

Wilson (*Am. Med.*, February 13, 1904) says the diagnosis or location of the lesion is, however, important, as the prognosis depends upon its location. If the lesion is external to the stylomastoid foramen, we have complete paralysis of the facial muscles, involving the orbicularis and frontalis. The sense of taste and hearing remain normal. This is Bell's palsy. If the lesion occurs within the lower part of the facial canal, we have complete paralysis of the face as before. In addition, however, we have loss of sense of taste in the anterior two-thirds of the tongue on the paralyzed side and a diminished secretion of saliva. The sense of hearing remains normal. This lesion involves the chorda tympani and a twig from the glossopharyngeal nerve.

If the lesion is in the upper part of the facial canal, so that the stapedius is involved, and not the ganglion, we have all the last-named phenomena and, in addition, there will be found abnormal acuteness of hearing as the stapedius muscle is cut off, and the tensor tympani has its own way and makes the drumhead tense.

Rotheln.

Maddox (*Ibid.*, January 30, 1904) has observed bloody discharges from the nose, soreness, stiffness and swelling of the fingers, soreness and sometimes stiffness of the wrists, elbows and knees, and less frequently of the ankles, as if there were present transient inflammation of the synovial membranes. He observed these symptoms in an epidemic and finds no reference to them in literature.

Some Reflex Neuroses of Dental Origin.

Lederer (*I id.*) quotes cases of ocular, aural, muscular, visceral and trophic (hair and salivary glands) neuroses traceable to dental irritations.

Laryngeal Crepitation as a Sign of Pulmonary Tuberculosis.

Remouchamps (*Semaine Med.*; *Ibid.*, January 30, 1904) describes a sign which he terms "laryngeal crepitation," and claims it is present in all cases of pulmonary tuberculosis, frequently before any other

sign or symptoms can be elicited. The physician faces the patient who is directed to open his mouth slightly. The physician places his right hand on the patient's left shoulder and his left thumb on the patient's chin; then approaches his left ear toward the mouth of the subject; a fine crepitation may be heard which is simply an augmentation of the sounds produced in the tuberculous lesions. It is heard during inspiration and expiration, more pronounced in the latter. Sounds may be heard in other affections of the lungs but they have not the fine crepitant character of the ones described.

Pyelitis and Pyelonephritis.

Bazy (*Press Med.; N. Y. Med. Jour.*, February 13, 1904) says pain and slight hematuria may occur at the end of micturition in these conditions, but are not pathognomonic; pollakiuria, nocturnal as well as diurnal, is so, however. Pus is found in the urine in larger amounts than in cystitis. Fever and other systemic signs of infection are present. Pain and hypermegaly disclosed by bimanual palpation show which kidney is affected. Inflammation of the ureter may be demonstrated by pressure, paraumbilical, subcostal or lumbar, when in the upper part; when the lower end is inflamed, vaginal or rectal examination will elicit pain.

Clinical Study of Cerebro-Spinal Meningitis.

Ely and Snyder (*Penn. Med. Jour.*, December, 1903). Special symptoms:

MOTOR.—Patient three had paralysis of the right side of the body. In case two there were convulsive movements of the arm before death. There was a remarkable absence of motor symptoms, and affection of the cranial nerves in cases which recovered.

ARTHRITIS.—Eight had arthritis, non purulent.

EYES.—Dilatation of the pupils occurred, both early and late, in most of the cases; there was no case of blindness. One patient had divergent strabismus, and one left-sided ptosis.

EARS.—Pain in the ears and ringing and throbbing of the ears occurred as early symptoms. In one case there was otitis media resulting in impaired hearing.

In summarizing we note the marked irregularity of the temperature and pulse, and varied clinical pictures: The comparative constancy of Kernig's sign, the marked variability of Babinski's sign, the

"crane like" posture of the head, being set back in rounded shoulders with chin tilted forward, quite pathognomonic; the variety of paralyses of individual nerves.

Erythromelalgia and Raynaud's Disease.

As all our readers know, the declining years of the past century added to our previous overstock of interesting, although approximately unmanageable diseases, two curiously contrasted ones of comparatively rare occurrence. We allude to erythromelalgia and Raynaud's disease. The former, which is by far the most uncommon, owes its birth and baptism into clinical and scientific history to Dr. Weir Mitchell, who in his original description informs his readers that:—
"Erythromelalgia is a chronic disease in which a part or parts of the body, usually one or more extremities, suffer with pain, flushing and local fever, made far worse if the parts hang down "

The less rare condition of Raynaud's disease is one in which the extremities present asymmetric display of evidences of profound vascular and nutritional derangement, in which pallor, congestion with lividity, and local gangrene are the characteristic features—in effect, "a local syncope, a local asphyxia, or a local death."

Skirving, of New South Wales, recently exhibited to his medical society a case of this latter condition, in a miner, aged 36 years. The patient was of distinctly neurotic temperament, and had lived a life of physical hardship and exposure, but had no specific history and presented no discoverable organic lesion. He attributed his condition to the fact that he had "worked in wet claims." Eighteen months before he began to notice that at times both his feet "went dead." They became pale, sodden looking and cold to the touch. At the same time tactile, painful and thermal sensations were equally blunted. There was never any dissociation or sensibility such as is met with in some cases of other neurotic lesions, of which syringomyelia is a notable example. There had never been much pain, seldom any cyanotic lividity and never any approach to actual gangrene.

A patient suffering from erythromelalgia was simultaneously exhibited for the purpose of demonstrating and emphasizing the contrast. The patient, also a male, aged 40 years. He was also of neurotic temperament, was perfectly temperate in his habits and had no specific history. His physical troubles commenced about six months

before—after a long period of worry and physical overexertion. He first noticed pain and throbbing in the left fingers, then uncomfortable sensations developed themselves by degrees in the hands. Tactile sensibility appeared to be somewhat heightened, the other sensations had continued normal; the fingers had grown red and hot, at the time of exhibition they were somewhat swollen and they showed at times a tense, rosy glossiness. All the conditions and feelings are intensified when the hands hang down.

Stress was laid on the fact that no stage of pallor had preceded the development of the heated and flushed condition of the left digits. There was some loss of muscular power and there was diminished response to both forms of the electric current and more especially to the faradic. When the affected fingers develop their full tint of rosy redness they proceed to sweat profusely. The symptoms are least troublesome in the morning and increase markedly toward night.

These two cases of rare and but recently recognized disease are indeed curiously contrasted. The symmetry of the one and the asymmetry of the other are almost as definitely opposed as the vasoconstriction of the former and the vasodilation of the latter. With regard to the primal etiology of the respective conditions it is probable that in the case of Raynaud's disease the view first propounded by the discoverer still holds its own, viz, that the vasomotor centers are unduly irritable and that the causal stimulus is usually peripheral—such as the application of cold and the afferent impulses reflected back from the neural centers lead to paroxysmal contraction of the arterioles. In the case of erythromelalgia, the nearest approach to a satisfactory explanation of the conditions which present themselves—although by no means a satisfactory one—is offered by the suggestion of the existence of a peripheral neuritis which affects the vasomotor fibers only.—*Am. Med.*

Pain in Appendicitis.

Moullin states that in acute inflammation of the appendix:

1. Absence of pain is no indication that the most serious mischief is not going on.
2. The initial pain of acute inflammation of the appendix, which is so commonly referred to the umbilicus, is due to the peristaltic action of the cæcum or of the appendix dragging upon the attachment of the peritoneum to the abdominal wall.

3. The cessation of this umbilical pain without improvement in the other symptoms is due to cessation of the peristalsis caused by the inflammation having spread to the muscular coats of the bowel.

4. The development of local pain, which usually precedes the cessation of the umbilical pain, means that the inflammation has spread from the appendix to the parietal peritoneum or to the postperitoneal cellular tissue.

Severe pain is of serious import, as it implies either wide extent or great severity of inflammation. The presence of deep tenderness indicates that the inflammation has spread to the parietal peritoneum ; its absence, when other well-marked symptoms of the inflammation of the appendix are present, is of very grave import as indicating that the sense of feeling pain has been lost, owing to extreme virulency of the toxins. In most cases of acute appendicitis there is a marked degree of cutaneous hyperæsthesia, evidence that the spinal centres are receiving from some point supplied by its nerves, stimuli of unwonted intensity. Such stimuli may come from the muscles or the abdominal viscera, but not from the peritoneum. Sudden cessation of the hyperæsthesia, without corresponding general improvement, suggests that the appendix has become gangrenous.—*Lancet*.

The Value of the Peristaltic Movements of the Intestines.

Gaub (*Penn. Med. Jour.*, September), from experiments on dogs and clinical observations, concludes :

1. That peristalsis ceases when a violent blow is delivered on the abdomen.

2. Although the material experimented upon is rather meagre from which to draw absolute conclusions, it seems probable that in an approximately definite time peristalsis returns, if no lesion of the gastrointestinal tract occurs, this time coinciding with the general subsidence of the symptoms of shock.

3. It is known that the peritoneum of the dog is highly resistant to infection, and we must consider the probability that the interruption to the normal peristaltic wave, caused by a cut bowel, served to prolong the time in which peristalsis returned. In the human being this is accentuated and in fact made permanent by the ensuing peritonitis.

The arrest of peristalsis is part of the condition of shock in which all the functions of the body are in abeyance. The degree of shock varies and we would expect that a longer period of time should elapse

for peristalsis to return, if the injury causing the shock acted on the abdomen.

With appropriate treatment to combat shock, as heat externally, firm support to the abdomen, strychnine and camphor, the general condition of the patient should improve within one to four hours, unless some intra-abdominal complication exists, such as a hemorrhage or a tear in the bowel, allowing an extravasation of its contents, and as a consequence, a beginning of peritonitis.

THERAPEUTICS.

In Charge of PHILIP NEWCOMB, M.D.

Sodium Salicylate in Chorea.

Lees (*Brit. Med. Jour.*, August 29, 1903) contends that chorea is in all probability a disorder of the whole cerebral cortex, and possibly of the nervous system in general, rather than of the Rolandic area of the brain alone. The morbid blood condition is associated with rheumatism, both disorders are due to the same infection and in the majority of cases he thinks that chorea may be called cerebral rheumatism, although the statement can not be absolute, by reason of fact that other toxins and microbes may affect the cerebral cortex in a similar manner and it is possible that sudden emotional disturbance may produce a toxin having a like action.

Poynton holds that one micro-organism is the cause of both rheumatic fever and chorea, but does not conclude that the latter is always rheumatic since he has met the disease after erysipelas, measles and during tubercular meningitis, and states that it is moreover a matter of speculation as to how much of the chorea may be due to focal lesions and how much to the toxins of rheumatism. He considers that chorea is an infection of the nervous system, comparable to that in tuberculous meningitis rather than that in diphtheritic paralysis.

Lees states that whatever causes may appear to enter into the pathogenesis of chorea yet it is always difficult to prove the absence of rheumatism and makes the deduction from the known association of the two diseases that the treatment should be similar. He, therefore, advocates the administration of sodium salicylate, with the addition of

an alkali in about twice the amount of the latter to the former, this proportion being considered of importance.

The success obtained seems to depend upon the amount given daily. The dose of sodium salicylate for a child 6 to 10 years old should be at first 10 grains with 20 grains of sodium bicarbonate, which may in two or three days be increased to 15 and 30 grains respectively and after another like period of time to 20 and 40 grains every two hours during the day and every three hours during the night; 10 doses in the twenty-four hours; thus increasing the daily dose from 100 grains to 150 and finally to 200 grains. While salicylate poisoning is of rare occurrence, a careful watch must, however, be kept for any untoward manifestations, especially the peculiar deep inspiration, and if this occurs, immediate discontinuance of medication is indicated. Lees believes that the above plan, with rest, furnishes the most successful treatment for acute chorea, although it may prove less efficacious in the chronic variety, where time may be an essential factor in the case. —*Jour. Am. Med. Ass'n.*, Vol. xli, No. 12.

A Substitute for the Iodids.

In many instances where the indications for iodid of potassium are most plain, its administration in adequate amounts is found to be impossible on account of undue susceptibility to its influence by the stomach or other portions of the body.

It is pointed out (*Ed. Therap. Gaz.*, Vol. xxvii, No. 9) that this holds true, not only in the treatment of syphilis, but perhaps yet more frequently in cases involving cardiovascular changes with high arterial tension in those of advanced years.

Gastric disturbances and coryza frequently complicate the progress of these cases when they were otherwise showing marked signs of improvement, so far as the circulation and kidneys are concerned, under the administration of the iodids, and the physician is extremely loth to cease their use. The iodids of sodium and of strontium are less likely to produce objectionable effects than that of potassium, yet whatever the salt contraindications to its use constantly arise. The question is then how to continue an iodine influence without the disturbance which the iodids produce.

For some reason, which the writer does not attempt to explain, the syrup of hydriodic acid can frequently be taken by this class of patients when the iodids of potassium and sodium are not tolerated.

Syrup of hydriodic acid is not a new remedy by any means, and it is true that some patients can not take it at all, yet in the light of practical experience it stands forth as a valuable drug in the treatment of the conditions mentioned.

It is given in doses of 20 to 40 or even 60 miniums, well diluted with water, one hour after each meal, and if any evidences of gastric disturbance should present themselves, they may often be arrested by the administration of Vichy water, or plain water, to which a small quantity of sodium bicarbonate has been added.

The Treatment of Simple Icterus.

A. Robin (*Bull. Gen. de Therap.*, Vol. lxxii, No. 9) advocates an exclusive milk diet for patients with simple icterus up to such time that the Gmelin test shows the urine free from bile pigments and their replacement by urobilin and hemaphein, when it may be concluded that the biliary passages are once more unobstructed. The dietary may then be modified to furnish the necessary hepatic stimulation, and in addition he gives sodium bicarbonate 5 gm., dissolved in one liter of hot water, of which 150 gm. are taken in the morning; again one-half hour later, and a similar portion at 4 p.m.; or Hauterive vichy may be allowed instead. With the alkalines Robin gives 2 to 3 cg. of Lelladonna daily, and this is supplemented twice a day by thoroughly flushing the intestines with a quart and a half of water at the room temperature to stimulate the biliary passages and secretions and the intestines. In addition salines, preferably sodium sulphate, are given to offset constipation, the administration being in seltzer on an empty stomach.

Acute Amygdalitis.

Floersheim (*Medical Council*, November, 1903) advises the topical application of undiluted tincture of iodine to the inflamed area in simple acute or follicular amygdalitis. The method of application is simple and, according to its advocates, highly effective. A camel's hair throat brush is saturated with the drug and the affected parts rapidly and thoroughly painted. Some burning of the throat usually follows but if excessive may be promptly relieved by a simple gargle with warm water. In fact, should the patient experience no burning within five minutes following the application the treatment must be repeated at once to obtain the desired result. When marked improve-

ment follows within twenty-four hours the application need not be renewed but if little or no improvement is to be observed a second painting of the fauces is indicated. In the experience of the author a third application has never been found necessary. Constitutional treatment may also be employed but the procedure outlined is often the only measure required to bring the inflammation to an end.

Olive Oil.

Harvey (*California Med. Jour.*, January, 1904) considers pure olive oil Nature's best and most healthful fat for dietetic purposes, besides possessing sterling medicinal virtues both internally and externally. This oil contains the life and energy-giving elements—nitrogen and carbon, together with the metabolic elements, oxygen and hydrogen in proper proportion to sustain and promote life.

Recent experiment in the United States General Hospital at San Francisco have shown that an unadulterated olive oil is the best possible remedy in chronic tropical dysentery. In simple ulcer of the stomach and the general ulceration and irritation of the stomach and bowels in alcoholics pure olive oil in doses of a tablespoonful to one ounce has been found very efficient. In chronic constipation, in gallstones and jaundice the author ascribes a decided curative action to this agent as it seems to liquefy cholesterin, preventing the formation and expulsion of calculi, lubricates the bowel and promotes the flow of bile, thereby conducing to a better digestion of the food and more regular peristalsis.

In hyperpeptic conditions and post-prandial distress Harvey also considers olive oil of value, while in nursing mothers whose milk is deficient in amount or in fats the pure oil emulsified and combined with hypophosphites has been found most advantageous for both mother and child. He prefers this emulsion, moreover, to all emulsions of fish, linseed and petroleum oils in the treatment of marasmus, rachitis, pulmonary or tubercular troubles and beneficial in wasting diseases of children or adults where a real food tonic and fat is required.

K. Walpo (*Zeit f. Heil*, Prague, Vol. xxiv) has also called attention to the value of olive oil in the treatment of gastric hyperacidity, chronic ulcer, chronic gastric catarrh and constipation.

Harvey lays especial stress upon the importance of a pure and specially prepared olive oil free from all adulterations with cotton seed,

lard, linseed, rape or poppy seed, peanut or sesame oils and speaks of the imported varieties only to condemn them.

Ergot in the Treatment of Chorea.

Eustace Smith (*Lancet*, July 18, 1903) calls attention to the value of ergot as a nervous sedative in children and especially to the usefulness of this drug in the treatment of chorea. While not attempting to explain the method of its action, whether it exerts a direct sedative influence upon nerve tissue or acts indirectly by means of its action upon the blood supply of the spinal cord, he states the fact that under the administration of ergot in sufficient dosage the inco-ordination of movements ceases and the disease comes rapidly to an end. The author minimizes the possibility of ergotism since in his experience medicinal doses seem entirely harmless, the fluid extract leaving occasionally no untoward symptoms in amounts of one dram every three or four hours to children for long periods of time. In the treatment of chorea the bromids, chloral and other sedatives in order to be efficacious must be given in doses which result in depression and at the same time their influence is not permanent. Arsenic in the form of Fowler's solution is occasionally not tolerated and at any rate consumes some time in bringing the subject completely under its influence although it has a lasting effect when accomplished.

Ergot, according to Smith, is more rapid in action than arsenic, its effect is permanent, it is well tolerated and has proven successful when arsenic has been given without benefit. The dose should be one dram of the fluid extract, diluted, every three or four hours, to children of all ages and in some instances, according to the age or susceptibility of the patient, it may be found necessary to increase this amount to obtain the desired influence. Confinement in bed, as in the case of all treatments of this disease, forms a valuable adjunct and in addition it has been found that small amounts of strychnin with the ergot have a pronounced effect upon the potentiality of the latter. In all instances the drug was pushed until a beneficial effect was observed and a complete recovery invariably followed closely the first signals of improvement. The use of ergot should be continued, however, so long as any abruptness of voluntary movement is observed in order to prevent a relapse.

SOCIETY PROCEEDINGS.

ST. LOUIS OBSTETRICAL AND GYNECOLOGICAL SOCIETY.

*Meeting of December 17, 1903; Dr. W. G. Moore,
President, in the Chair.*

Dr. DIXON reported a case (see page 147, this issue) of
Ovarian Cyst.

DISCUSSION.

Dr. CROSSEN said he was very much interested in the case reported, particularly on account of its rarity. In something over twelve hundred labor cases which he had he had never found one complicated by an ovarian cyst. They doubtless occur oftener but it had never been his fortune to meet one. He thought that the operation and its result were better, as a rule, than could be expected, and congratulated the doctor on the excellent results obtained.

After the case had been discussed by the other members, Dr. Crossen asked whether there was anything to indicate clearly that this was an ovarian cyst, or a cyst of the broad ligament; he stated that his reason for asking this question was on account of the cyst being so low down.

Dr. HYPES stated that he believed this to be a case which would add materially to our knowledge on the subject of pregnancy as connected, or complicated with, these ovarian growths. He thought the doctor had followed the plain indications in the case—that was to remove the cyst and let the uterus alone, and he was to be congratulated upon the results.

The point raised by Dr. Crossen that these cases are rare, he thought, was not hard to account for, because, in the first place, they do not occur very frequently, and in the second place, they are very seldom left to grow long enough to become very large. In considering the case he said he felt like asking whether anything was known

about the first pregnancy when it was stated that the cyst had to be tapped. It did not seem hard to account for the rapid growth of this cyst again after the second pregnancy, because it is well known that ovarian cysts have a tendency to grow; it is said to be a fact in these cysts that pressure causes them to grow.

Dr. ROHLFING stated that it would be interesting to know at what time the development of this cyst took place. These so-called ovarian cysts frequently lie dormant for sometime and they usually develop a little more rapidly during the menstrual period. Some years ago he had treated a case which during the pregnancy did not show any indications of a tumor. Some months after the delivery, however, the woman returned and the examination showed an ovarian cyst; it was attached or partially fastened to the uterus. The operation was performed just one year after the delivery and a year after the operation the woman was delivered of another child.

Dr. NEWMAN said that the length of the labor preceding the tapping probably resulted in the child being born dead. He said it was a wonder that there was not septic infection; the doctor who was treating the case undoubtedly knew that he had a cyst to deal with and it was rather strange that he should have waited until the next pregnancy before bringing her to a surgeon.

In regard to the rarity of ovarian cysts accompanying pregnancy he said he agreed with Dr. Crossen that they must be rather rare; he had never seen one himself, but thought that doubtless, as stated by Dr. Hypes, this is due to fact that these cysts are recognized early and removed. He thought the case one of unusual interest.

Dr. FUNKHOUSER said that there were cases on record where pregnant women had been operated on for cysts, but that there were very few which had resulted successfully. He wished to know if Dr. Dixon thought it would have been possible for this case to have gone on without bad results by tapping her from time to time.

Dr. DIXON, in reply to Dr. Crossen, stated that the first labor lasted several days. When she was tapped a clear fluid was drawn off. Her last menstruation was in April and the operation was in July. There was nothing to indicate that this was an ovarian pregnancy except that the ovaries were implicated with the cyst and that, as a rule, intraligamentous cysts are not so low unless they grow from the ovarian tissue.

In reply to Dr. Hypes he stated that the woman was living in the country at the time of the first pregnancy and let the matter run on until she had to have a doctor's attention.

To Dr. Funkhouser he replied that in his opinion to have depended upon tapping the cyst from time to time would have been a bad procedure; repeated tapings of the cyst would be apt to disturb the uterine function, and there is always more or less risk of infection.

One of the interesting features of the case was that she went for some time without any appearance of swelling. The cyst was tapped in July, a year ago, and the swelling was not noticed until the following April—nine months; then, as soon as she became pregnant, the cyst began filling and causing a disturbance. Another point of interest was that the cyst had become enlarged to such an extent that it pressed down on the uterine tissue, including some of the tissue which had to be removed.

Removal of External Hemorrhoids.

Thomas Charles Martin, President of the American Proctologic Society, (*Cleveland Med. Jour.*) uses two hypodermic syringes with the finest needles, having long oblique points. A one-tenth of 1 per cent solution of eucaïne is prepared in a physiological salt solution, which is administered at a temperature of about 98°F. The integument in the proposed line of incision and the tissues beneath the base of the tumor should be rendered uniformly edematous by the endermic injection. The oblique portion of the needle's point should be laid on the skin, which is drawn tense, and by a movement of the fingers only, the needle should be pushed steadily in till its mouth is buried in the integument. The piston is now pushed and as the welt rises in advance of the needle's point, the needle should also be advanced in the plane of the integument. Before making the incision a row of continuous sutures should be placed in the infiltrated area around the growth, then cut and converted into interrupted sutures, to be tied after the tumor has been dissected away.

REPORTS ON PROGRESS.

MEDICINE.

In Charge of EDMUND, A. BABLER, M.D.

Cerebro-Spinal Meningitis.

Ely and Snyder (*Amer. Medicine*, November 14, 1903) report 23 cases occurring in young naval recruits that had been in the service less than three months. No seasoned sailors were affected. Patients were between 20 and 21 years of age. In all of the cases the *onset was abrupt*, and in nearly all death *ensued quickly*, or there was a *speedy recovery*. The mortality was 30.43 per cent. The "crane-like" posture of the head being set back in rounded shoulders, with chin tilted forward, is considered quite pathognomonic. Kernig's sign was very valuable and quite constant, while Babinski's reflex was present in nearly all of the cases to a marked degree. The pulse and temperature were markedly irregular and the clinical pictures very variable. The chief symptoms were fever, headache (frontal and occipital, or general), tonic contractions of the neck muscles, disturbances of the reflexes, dilated pupils, hyperesthesia and neuralgic pains generally. Several of these cases would not have been classified had not the disease been epidemic. Early death in some cases was most probably due to the action of specific toxin in cardiac or respiratory centers.

Typhoid Fever and Tuberculosis.

Osler (*Ibid.*, December 26, 1903) finds five types of tuberculous infection which may simulate typhoid fever—the acute miliary form, tuberculous meningitis, tuberculous peritonitis, the acute toxemia of certain local lesions and forms of pulmonary tuberculosis. His experience causes him to believe that the profession is not fully alive to the importance of the subject. The author holds that—

1. The disease may be concurrent.
2. Enteric fever may be mistaken for tuberculosis.
3. Tuberculosis is very frequently mistaken for typhoid fever, and
4. Tuberculosis may follow typhoid fever.

This latter condition—pulmonary consumption following typhoid fever is considered by the author as very rare even though statements made to the contrary. The two cases reported illustrate the important relations which may exist between the two diseases. The physician should never lose sight of these facts.

Report of a Case of Uncinariasis.

Guthrie (*Mobile Med. and Surg. Jour*, September, 1903) reports a case in a white male, aged 18 years, born and reared in Louisiana, who has two sisters that are probably affected with the disease. Patient first noticed a progressive pallor some six years ago. Three years later a yellowish tinge manifested itself in the skin. Appetite has not been perverted, but colicky epigastric pains have been almost continually present, and he has had a diarrhea for the past three years. Abdomen prominent and some ascites. Spleen and liver enlarged. Exophthalmos quite marked and Stile's "stare" very apparent. Urine seemed normal, except the color, which resembled a dilute solution of eosin, the fluorescence being marked. Blood showed presence of a small number of myelocytes; absence of megaloblasts; slight leucocytosis and eosinophilia. Hemoglobin 22 per cent. Feces contained the ova of *uncinaria americana* in large numbers. The writer considers Stile's blotting paper to be vastly inferior to the microscope as a mode of diagnosis.

Tonics and stimulants were freely given. Twenty grains of thymol was given at 8 and 10 a.m. respectively, in capsules as an initial dose. During the forty-eight hours following more than seventy-five adult worms were found in the feces. The females predominated. The arsenated tonics were not given when the thymol was administered. Three subsequent treatments of 40 grains of thymol were administered at intervals of four to seven days. The urine became of a smoky hue after the administration of 60 grains of thymol, which was given two weeks after initial dose. This lasted but a few hours. The improvement was quite manifest and the patient volunteered the statement that he felt better than he had in years.

Adrenalin in the Treatment of the Cardiac Toxemia of Pneumonia.

Elsner of Syracuse, New York, (*N. Y. Med. Jour.*, January 2, 1904) directs attention to the appalling mortality of pneumonia due to

the resulting cardiac toxemia. The prime factor in this disease is a toxemia with obstruction in the pulmonary circuit leading to cardiac asthenia. Marked changes occur in the right half of the heart, with far-reaching degenerative changes in the muscle, heart clots and vasomotor paralysis.

Three remedies meet the indications presented by the circulatory changes due to paralysis of the vasomotor centers, the dilated condition of the arteries and the weakened heart. These are strychnin, digitalis and suprarenal extract or adrenalin, its active principle. Adrenalin acts on the heart and blood vessels favorably; it does not act on the vasomotor centers. Hence, it may be used to assist strychnin. When the vasomotor center is exhausted and blood pressure study proves the inefficiency of strychnin, adrenalin may still be administered and, in some cases which seems surprising, when combined with the method of stimulation about to be suggested, we may carry the patient beyond the critical period to a safe recovery. Suprarenal extract or adrenalin has seemed to the author to act as a needed food in all infections where there is danger of myocardial degeneration. He reports a case of pneumonia in a woman, the mother of five children, in whom it had been impossible to raise a continually lowering blood pressure with strychnin. The systolic blood pressure was almost immediately raised by the repeated administration at short intervals of 15 minims of a 1 to 1000 solution of adrenalin hypodermatically and the patient was saved.

Yellow Fever.

The report of the commission sent to Rio Janeiro by the French Government (*Annales de l'Institut Pasteur*, November, 1903) practically corroborated the findings and assertions made by the Reed, Carroll and Agramonti, that this disease is due solely to the sting of the *stegomyia fasciata* infected by biting yellow fever patients. The prophylaxis rests wholly on measures that will prevent these insects from biting yellow fever patients and then healthy persons. It is conceded that the serum of convalescents has distinct therapeutic properties. The report confirms Carroll's assertion in toto.

GYNECOLOGY.

In Charge of GEORGE GELLHORN, M.D., St. Louis.

Heredity of Syphilis.

Matzenauer (*Wien. Klin. Woch.*, No. 7, 1903), a well-known authority on syphilology, studies the question: Is it proven that syphilis is ever inherited from the father, the mother not being affected? His thorough argumentation, for which the reader is referred to the original, culminates in the statement that a child inherits syphilis only when the mother has been infected. The practical conclusions are:—The mother of a syphilitic child though she herself may not present any symptoms of the disease, must be given an antiluetic treatment. She may nurse her child with impunity. A child hitherto healthy may be infected by his syphilitic parents. In order to avoid infection of his wife, a syphilitic man should not be married until several years after the infection nor until several courses of treatment with mercury have been taken.

Vaginal Injections in Obstetrics and Gynecology and as a Hygienic Procedure.

J. Lucas-Championnière (*Presse Med.*, No. 42, 1903) justly represents the excessive and injudicious use of vaginal injections. Leucorrhea due to menstrual congestion of the uterus does not require douching and disappears spontaneously with the cause of the congestion. In obstetrics, increased vaginal discharge during gestation is physiologic and also due to congestion and, of course, is not remedied by injections. Only immediately after delivery may injections be employed in order to clean lacerations of the cervix and other wounds of the kind. In such cases only a small quantity of a strong antiseptic solution, such as carbolic acid and glycerin, *aa.* 50 to water 1000, is indicated. Further douches in puerperio are dangerous on account of the possibility of introduction of septic matter into the interval genitalia. During pregnancy injections may lead to abortion. In gynecology the excessive prescription of injections is frequently based on the erroneous supposition that every fluor albus is of a gonorrheic origin. Injections ordered entirely from a hygienic point of view should be altogether abandoned as they may be looked upon as a serious impediment to impregnation and constitute, in his opinion, the commonest cause of

sterility, and so of the decreasing population of France. Strong solutions of antiseptic fluids should never be injected frequently; weak solutions have no real value. Much better are simple alkaline or mild astringent injections in such cases in which douches are indicated. The temperature of the injections should be that of the body; hot douches must be limited to certain well-defined indications. The attitude toward injections as generally taken at present merely leads away from the appropriate method of treatment, thus delaying or opposing the cure of the existent condition.

Vulvovaginitis in Children.

Dookelski (*Russ. Wratsch*, April 19, 1903; *Brit. Gyn. Jour.*) describes vulvovaginitis as—

1. Infectious, either (a) specific or gonorrheal, (b) diplococcic, or (c) simple.

2. Non-infectious, *i.e.*, catarrhal.

From his personal observations he draws the following conclusions:

1. The disease of children commonly described as "whites," "fluor albus," "leucorrhea," and otherwise, is in 80 per cent of the cases infectious vulvovaginitis of a specific gonorrheal nature; in the remaining 20 per cent the infection is of the diplococcic or simple forms which, as compared with the extreme persistence of the gonorrheal form, are marked by their quick course and speedy recovery. Non infectious vulvovaginitis is only met with in the catarrhal form and is always of a very protracted nature.

2. The general constitution of children has no distinct influence on the course of vulvovaginitis.

3. In the majority of cases the infection of the children is by the mothers.

4. Cases of infection by rape and by immediate contact recover with extreme tediousness, sometimes with high temperatures and acute complications.

5. There is a possibility of the infection of vulvovaginitis by the mother at the time of birth.

6. Inflammation of Bartholin's glands is met with in the acute forms in gonorrheal vulvovaginitis.

7. When there is inflammation of Bartholin's glands it is only possible to distinguish the forms of infection by microscopical examination.

8. The gonorrheal forms of vulvovaginitis in children require further investigations as to their sequelæ.

9. It is necessary to diffuse the knowledge that "whites" are infectious and dangerous, and to enlighten the masses so that the foundations of treatment may be hygienic and preventive against vulvovaginitis.

Operation for Puerperal Inversion of the Uterus.

Myer (*American Gynecology*, November, 1903) reports a case of *inversio uteri puerperalis* successfully reduced by a modified Kuestner's method. The patient had an instrumental delivery at term of a living child after having been in labor for twenty-four hours, not, however, having suffered any severe pains. The placenta was removed manually. There were profuse hemorrhages shortly after delivery and during the entire first week of the puerperium. These hemorrhages repeated themselves after the patient left her bed.

When seen by Myer the patient was extremely anemic and weak. The diagnosis of chronic inversion was easily made. The cervix was so tightly drawn around the inverted portion of the uterine body that re inversion under anesthesia, even after the cul-de-sac had been opened, was impossible. Then an incision was made between two vulsellum forceps (placed in the posterior lip of the cervix) in the median line through the posterior lip of the cervix and the posterior wall of the uterus to the fundus, after which the uterus could be reinverted by simply pressing on the anterior wall with the thumb. Closure of the incision and the cut through the posterior vaginal vault, leaving a small gauze drain in the cul-de-sac. Duration of operation, twenty minutes. Uninterrupted recovery.

If manual replacement or reduction by means of the colpeurynter fails operation has to be resorted to. The vaginal operation is far superior to laparotomy. Hysterectomy is justifiable only as a last resort, being employed in a septic condition and when simpler methods have failed.

SURGERY.

In Charge of M. G. GORIN, M.D.

Suprapubic Removal of the Prostate and Prostatic Urethra for Senile Enlargement.

Moynihan, of Leeds, (*Annals of Surgery*) reports a series of twelve cases of this operation. The first case performed in 1901, was to a certain extent accidental, as it was not the intention of the operator to remove the prostatic urethra, and on finding this structure in the removed gland he was somewhat alarmed for the ultimate result. In five weeks the patient was, and still is, able to pass the urine in a natural manner, and suffered no ill consequences whatsoever.

He has followed this method in twelve cases, with one death, in a patient aged 65 years, very feeble, and from whom at the same operation a large stone was removed. In the other eleven cases the symptoms were relieved completely and healing occurred on the average about the fifth week. Moynihan operates with a rubber glove on the right hand, leaving the left uncovered. After opening the bladder suprapubically, the two sides of the opening are stitched to the abdominal wall with two long silkworm gut sutures which are allowed to remain in until the fourth day. The left forefinger is then introduced into the bladder and a nick is made in the trigone immediately behind the internal urethral meatus. The finger tip gradually loosens the mucous membrane beginning at this small opening. Two fingers of the right (gloved) hand are then introduced into the rectum with the thumb pressed firmly into the perineum, in order to bring the prostate into a firm grip while the stripping is being accomplished by the left forefinger. The enucleation is usually accomplished in from two to five minutes. A catheter is now passed and the bladder flushed with a hot 1 per cent carbolic acid solution. After the fluid returns clear a large rubber tube is passed into the bladder and a couple of stitches introduced into the wound. On the fourth day the tube is removed and the patient allowed to sit up with the bed rest. A catheter is passed on each succeeding day until the seventh, when it is tied in. The bladder is flushed daily through the suprapubic. The average age of the twelve patients was 65 years, the eldest being 73 and the youngest 56 years.

Sufferers from senile prostatic enlargement are almost invariably poor subjects for operation, yet Moynihan claims their recovery after operation is rapid and remarkable. An important point to be remembered is not to keep these old patients too long in bed; they should be allowed to sit up within two or three days after the operation.

Aneurism of the External Iliac Artery.

Shepherd (*Ibid.*) reports a case which was treated successfully by digital compression. The patient, a man aged 40 years, some two months before treatment was begun, strained himself lifting a heavy weight. Symptoms of aneurism of the external iliac artery developed shortly afterward. Refusing operation, it was determined by Shepherd to try digital compression. This could be efficiently carried out as there were many students at the hospital who could intelligently accomplish this tedious task. They were divided into relays of twelve students and each compressed the artery for five minutes. At the end of twelve hours pulsation had entirely ceased and pressure in a more moderate degree was continued for twelve hours longer. The patient experienced a great deal of pain at the end of the fifth hour and it was necessary to administer hypodermics of morphia, which readily relieved it; after the first twelve hours he complained of no pain. The leg was now bandaged with cotton-wool and the patient kept in bed for two weeks, at the end of which time the swelling had greatly diminished and hardened. Six months later the tumor could be felt but was very hard and not pulsating.

This was not a favorable case for operation as the aneurism was divided into two portions by Poupart's ligament and the common iliac was the only available site for ligation.

Pathology and Surgical Treatment of Bright's Disease.

Gordon (*Annals Gyn. and Ped.*) reviews the work recently done by Edebohls, a record of eighteen cases of kidney decortication with improvement in every case and without mortality, the most notable, perhaps, being a case of puerperal eclampsia, with convulsions in both the ante- and post-partum periods, which was completely relieved by double decortication. From his own personal experience and a study of recorded cases Gordon deduces the following conclusions:

1. That Bright's disease is primarily an acute inflammation of the kidney structure, not dependent upon any specific infective germ,

which if early recognized and properly treated will terminate by resolution.

2. That if neglected or not recognized, repeated acute attacks may occur, each one leaving products of the inflammatory process, which may organize or even suppurate.

3. That the acute attacks are always short but leave more or less products which interfere with the circulation, finally producing a chronic passive congestion incorrectly called "chronic inflammation."

4. That the results of these attacks is an enlargement of the organs causing pressure of the fibrous capsule.

5. That complete decapsulation relieves this pressure, depletes the distended vessels by more or less bleeding and allows the circulation to resume its normal condition and absorb the exudate.

6. That even one kidney alone may be involved and the symptom be relieved by operation upon that one only.

7. That the surgeon may be justified in operating even in cases far advanced, when the suffering is so great, simply for relief to the suffering.

Necrosis of Entire Lower Jaw.

LeConte (*Annals of Surgery*) reports a case of removal of the entire lower jaw from a child, aged $4\frac{1}{2}$ years. The trouble began with a tooth on the right side of the lower jaw and symptoms rapidly developed, so much so that the case was mistaken for one of noma, upon first examination. Under ether the condition was found to be a fulminating gangrenous osteitis of the whole lower jaw, which was divided in the mental portion and the two halves removed separately. The condition of the child is most serious from systemic sepsis.

'Abortive Treatment of Bolls.

A 2 per cent carbolic acid solution is used. A hypodermic needle is inserted obliquely through the outer edge into the center and a quantity of the solution injected. The needle is then withdrawn and reinserted at another point of the periphery, etc. The results are almost magical. The process of necrosis is arrested and the already dead tissue rapidly falls away.—*Medical Record*.

HYGIENE.

Studies in Centenarianism.

French (*Med. Ex. and Prac.*, August, 1903) contributes an interesting study on centenarianism. According to a recent authority, Servia, Bulgaria and Roumania have the largest proportion of centenarians of any known countries, while the principal nations of Europe have not only a very small proportion as compared with these, but also a much smaller one than the United States, as a whole. The United States has ten times as large a proportion of centenarians as England, but only one twenty-sixth as many in proportion as Bulgaria. Of races, it shows the whites to have the least proportion of all, followed by the Mongolians with twice as many, while the Negroes have twenty-four times as many, and the Indians thirty-nine times as many.

In a further study of individual cases the author finds that centenarians are found under very diverse conditions, but if there is any general agreement in these several cases, it is in emphasizing the importance of an active, out-door life, regular habits, an intelligent interest in the affairs of the world, and abstinence from strong drink and injurious articles of food, as favoring long life.

In a recent published account of the reply of twenty centenarians, they all agreed in four things:

1. The excesses of all kinds should be avoided.
2. That worry should be absolutely banished and cheerfulness promoted.
3. That hard work in the open is an essential rule.
4. That regularity of habit is necessary.

Dissemination of Typhoid by Butter.

Bruck (*Deutsche Med. Woch.*, No. 26, 1903) made a series of careful experiments to determine the liability of the dissemination of typhoid fever by butter. The vessels in which the cream was kept were washed out with water which had been slightly contaminated by rinsing out a cloth soiled with feces from a typhoid patient. Butter was made from this cream and it at once showed the presence of the typhoid bacilli. Living bacilli were found in the butter for more than three weeks and during the first few days the bacilli seemed to multiply. He believes that butter is more dangerous than milk.

This report is very interesting and demonstrates the necessity of inquiring carefully into the butter supply when attempting to find the source of a typhoid fever epidemic.

Cholera and Flies.

Mackaig (*Edin. Med. Jour.*) adds another chapter to the accumulating literature on the fly as a carrier of pathogenic bacteria. He recites his experience of a cholera epidemic in India, and asserts that Europeans were attacked who avoided every possible source of the disease germs and drank only boiled water. The flies were numerous and swarmed about the cholera patients, and were found in all the houses. The author and several others took great pains that their food was not contaminated with flies, and thus they were never attacked.

The importance of this deduction can not be overestimated. If flies and water are the principal carriers of cholera, it ought to be possible to stamp out the disease in any civilized community.

Injury to Health while in School.

Drummond (*Scottish Med. and Surg. Jour.*) discusses at length the various factors in school life which may injure health. He finds them in unsanitary arrangements of the school room; insufficient knowledge of hygiene on the part of the teacher; too much school work, and worry, excitement and fatigue. There can be little doubt that many pupils are overworked. Worry is very common in school children and stands in a causative relation to ill health. This is heightened by the rigid discipline of school life. During puberty the girls should avoid all unnecessary exercise, as all the strength is needed for their physiologic functions.

[The author does not emphasize sufficiently the effect of various mild infections carried from one child to the other by the congregation of children.]

OBITUARY.

DR. EDWARD C. RUNGE.

The medical profession has recently sustained a grave loss in the unlooked for death of Dr. Edward C. Runge, late Superintendent of the St. Louis Insane Asylum.

His career, though all too brief, was a notable one, both in the benefits conferred on afflicted humanity, and for the manner in which he overcame obstacles which would have daunted a less brave spirit. Only the favored few who were admitted to his intimacy, ever realized the true mettle of the man, that high quality of soul and purity of purpose which made possible the realization of his ambitions in the face of adverse conditions.

Dr. Runge was born in 1856 in the city of St. Petersburg, of a German family. His early education was acquired in the schools and later at the University of that city. That he fully profited by the advantages there offered, was evident to his acquaintances of later years, who often had occasion to marvel at the thoroughness and the variety of his acquirements.

Coming to this city in 1883, he found himself alone in a strange land, without any knowledge of the language. His slender means being soon exhausted, he gladly accepted a position in the baggage room of the Union Station which, however, did not present itself until he had felt the pangs of hunger. Although he did not shrink from the hard manual labor of his employment, his employers soon discovered his fitness for more remunerative work, and he was given a clerical position.

It had long been his ambition to take up the study of medicine, and, indeed, his work at the University of St. Petersburg had already, in part, been directed to that end. In chemistry he was particularly well equipped. Accordingly, in September, 1888, he matriculated at the St. Louis Medical College. The small amount which by rigid economy he had saved from his earnings being insufficient to maintain

him, as well as pay his tuition during the three years of the college course, he found it necessary to continue at his clerical work at night, while his days were given to his studies. In spite of the fact that this arrangement left less than four hours out of the twenty-four for sleep, his forceful and brilliant mind stood the strain so well, that in 1891 he received his diploma, graduating at the head of an unusually brilliant class. During his senior year, the Faculty, aware of his special training in chemistry, employed him as a subordinate instructor in that branch. It would seem that only a really busy man has time for extra labors, for he it was who organized his class and conducted a system of coaching, the result of which was manifest in the next ensuing competitive examination for positions at the City Hospital—an unusually large proportion of the class winning admission over applicants from other schools.

After a term of service as Assistant at the Female Hospital, Dr. Runge entered private practice, and soon after married Miss Emily Foote, of this city, who survives him. Having always felt a leaning toward the study of nervous phenomena, he took a position under Dr. Frank R. Fry in the Neurological Clinic of the St. Louis Medical College. Here were strengthened the bonds of sympathy between these two strong men, which endured to the end. For four years he also held the position of Instructor in Physiology, being associated in that branch, at first with Prof. Wm. T. Porter, now of Harvard, and later, with the writer of this notice.

In 1895 Dr. Runge was appointed by Mayor Walbridge Superintendent of the St. Louis Insane Asylum, a position which he held for nine years and until within a few days of his death, having been reappointed by Mayor Ziegenhein and again by Mayor Wells. It was characteristic of the man that on each occasion he refused to solicit any influence or bring any pressure to bear to secure his reappointment, preferring to stand solely upon his record.

It was here that Dr. Runge came into his true life's work. His long years of careful preparation, his training of heart and brain, found their full fruition during his nine years of work among and for the insane. These years seem but few when we measure the extent of our loss, but what an amount of good did he not accomplish during these nine precious years vouchsafed to the accomplishment of his mission! A second Pinel, he refused to add the weight of material bonds to

those whose minds were already straitened, and by the use of modern scientific and humane methods, but even more by the subtle influence of his kindness and constant charity toward the unfortunate, he led back many a darkened intelligence to the light of reason. Among the many whose heart are heavy, none mourn more sincerely or with more reason than his former charges.

In many regards Dr. Runge's personality was striking and unusual. It was not so much his intelligence, his learning, his originality, not even his love for his friends and helpfulness to all who needed help, which most impressed one, it was his absolute fearlessness in word and deed. This was the keynote of his character. There are, after all, but two kinds of people in this small world of ours—those who believe that they must accept conditions as they are, and those who refuse to compromise with what falls short of their best ideals. The first are the comfortable and more or less contemptible majority, while to the latter belong that small minority who may fall in the fight, while their ideas ultimately prevail. Dr. Runge belonged essentially to the minority. That such a man should have enemies and that such a spirit should awaken jealousies among meaner minds, followed as a necessary consequence. These, however, were but few, and in no wise disturbed his equanimity. What was to him a real source of sorrow was to see his work among the insane hampered, within the last year, by measures based on purely political considerations, and that the instruments placed in his hands were no longer chosen on grounds of efficiency alone, but rather dictated by the needs of petty politics. Finding himself thus impeded in his work, he determined to return to private practice, and on the last day of January bade farewell to the unfortunates for whom he had labored so long and so successfully.

Four days later he was seized with pneumonia and expired on the evening of February 10, 1904.

His memory will remain a treasured possession among those so fortunate as to have experienced the inspiration of his personality.

JOSEPH GRINDON, M.D.

BIOGRAPHICAL SKETCHES.

DR. JOSEPH NASH McDOWELL.

As this study of the lives of the early physicians continues one becomes impressed with the large number of distinguished men who were not only pioneers in the development of the medical science and art in the West, but also contributed largely to the progress of the science. One of the best known physicians and surgeons was the subject of this sketch.

Dr. Joseph Nash McDowell was born in 1805 and was for many years connected with the Cincinnati Medical College. There he was associated with several noted physicians, among whom was Dr. Gross.

Soon after arriving in St. Louis (1840) he, with Drs. J. S. Moore, J. W. Hall, J. DeWolf and H. L. Prout, organized the Medical Department of Kemper College. The first lectures were given in a building situated on the banks of Chouteau Pond where the Wainwright Brewery now stands. In 1847 this became the Medical Department of the Missouri State University.

Dr. McDowell was a fluent speaker and was well known as an orator for every occasion. He illustrated his anatomical and surgical lectures by witty anecdotes and in this way interest in his teachings never waned. What is especially striking in his life is the fact that he was addicted to peculiar mental eccentricities. Many stories are told concerning his peculiar fancies in reference to the burial of his wife and children.

When the Civil War was precipitated he favored the Southern Cause and served as surgeon in the Confederate Army. After the war he returned to St. Louis and reorganized the Faculty of the Medical College.

He died in St. Louis in 1868 and was buried in Bellefontaine Cemetery.

Dr. McDowell was distinguished as a bold operator and was the pioneer in the organization of medical schools in the West.

BOOK REVIEWS.

The Courier of Medicine Company will mail, postpaid, any book reviewed, on receipt of price.

A Compend of Pathology, General and Special. A student's manual, in one volume. By Alfred Edward Thayer, M.D., professor of pathology, University of Texas. Second edition, flexible cover, 711 pages and 131 illustrations. P. Blakiston's Son & Co., Philadelphia.

Pathology is described as the science which treats of diseases, their causes, nature, signs, process, structural changes and results. This neat volume is certainly a very valuable work for students since it is condensed, clear and does not discuss controversial matters or make any reference to authorities. The volume contains all the salient features found in the two compends of pathology by the same author, issued in 1902, with the addition of a chapter on the nervous system and several illustrations; the text has been thoroughly revised. The author must be complimented for the clearness and simplicity noted throughout the work. Some may object to the brevity in some instances and to some of the illustrations, which could be improved upon by the substitution of colored plates, thus making some points of importance more clear and enhancing the value of the work. Taking the work as a whole and considering the fact that it is intended as a guide for students we commend the work and believe that it is an improvement upon the edition issued in 1902. It is the best manual of pathology that has passed through our hands recently.

The Self-Cure of Consumption. By Charles H. Stanley Davis, M.D., Ph.D. E. B. Treat & Co., New York. 1904. Price 75'c.

The object of the author is to show in this book that consumption in at least 95 per cent of cases before actual decay of the lungs takes place can be cured without the use of medicine. This result is to be accomplished chiefly by means of hygienic and dietetic measures, including proper methods of breathing, exercise, open-air treatment and change of climate.

The necessity for the full co operation of the patient is insisted upon but the author comes dangerously near the point of minimizing the necessity of medical attendance and supervision, and for this reason the book is not to be recommended for indiscriminate distribution to the laity, since a little knowledge wrongfully applied may lead to disaster.

While many of the ideas set forth are good they are capable of being misconstrued and thus some of their force and potential benefit is destroyed. The book will bear reading and analysis by the medical man, and may furnish some food for reflection upon our handling of the consumptive.

How to Attract and Hold an Audience. A Popular Treatise on the Nature, Preparation and Delivery of Public Discourse. By J. B. Esenwein, Lit.D., professor of the English Languages and Literature in the Pennsylvania Military College. Hinds & Noble, New York.

Doctors are not often good orators, but in lecturing and addressing the public or responding to a toast at a banquet they should know the principles of oratory. The reading of this practical work will be a help to any physician. We recommend it.

The Perpetual Visiting and Pocket Reference Book. Including Information in Emergencies from Standard Authors, also the following comprehensive contents: Table of Signs and how to keep Visiting Accounts, Obstetrical Memoranda, Clinical Emergencies, Poisons and Antidotes. Dose Table, Blank leaves for Weekly Visiting List, Memorandum, Nurses Addresses, Clinical Record, Obstetrical Record, Birth Record, Death Record, Vaccination Record, Bills Rendered, Cash Received, Articles Loaned, Money Loaned, Miscellaneous, Calendars for 1904 and 1905. Bound in Morocco, Red edges. Pages 124. Price *Free*. The Dios Chemical Company, 2940 Locust street, St. Louis, Mo. 1904.

This is one of the neatest and most complete Visiting Lists offered to the profession. The Dios Chemical Company propose to furnish a limited number of this unexcelled Visiting List to the profession absolutely free of any expense. The doctor will readily recognize that the Dios Company is saving no expense in keeping its name prominently before the profession, for whom it manufactures products, of more than ordinary merit, exclusively for the physician to prescribe. Those of our readers who desire a complete Visiting List, have only to write a postal card to the Dios Chemical Company, St. Louis, Mo., and they will receive it, postpaid.

NOTES AND ITEMS.

Announcement.

Of this issue we mail 5,000 extra copies with a view of increasing our subscription, see subscription blank, advertising page 3.

Tabes in Young Children.

Idlesohn was able to collect six cases of tabes occurring in young children, all of which gave a history of hereditary syphilis. He reports a case, with the gait normal, but sensory pupillary and reflex symptoms typical of locomotor ataxia.

Freckles or Liver Spots.

Coston recommend:

- R Tinct. benzoini co..... ℥iss
Hydrarg. chloridi corros..... ℥j
Aq. cologne q.s. ad ℥viij
M. Sig.—Apply twice daily.

Enteroptosis.

This disease, according to Jung, does not seem to be transmitted through heredity. In other diseases of the gastrointestinal tract the influence of heredity could not be proven.

Dupuytren's Contraction.

Janssen asserts that Dupuytren's contraction of the fingers is due to a local hyperplasia of the connective tissue, starting from the walls of the capillaries and becoming sclerotic. For treatment the entire lymphatic tissue must be dissected out.

Postoperative Femoral Thrombophlebitis.

Clark found that this affection occurred late after an operation. It occurred from the eighth to the thirtieth day after celiotomy. He does not believe that the thrombus formation is due to a general infection but rather an extension of a thrombus from a thrombus in the deep epigastric veins.



DR. CHARLES A. POPE.

Born in Huntsville, Ala., March 15, 1818; Died in Paris, July 5, 1870.

(See Biographical Sketch, Page 251).



DR. CHARLES W. STEVENS.

*Born in Pompey, N. Y., June 16, 1817; Died in St. Louis, Feb. 17, 1890.
(See Biographical Sketch, Page 151).*

ST. LOUIS

COURIER OF MEDICINE.

VOL. XXX.

APRIL, 1904.

No. 4.

ORIGINAL CONTRIBUTIONS.

**Permanent Mechanical Hinderances to
Respiration.**

By J. H. TYNDALE, M.D.,

LINCOLN, NEB

MECCHANICAL hinderance to respiration and its effect upon the lung tissue, the heart's action and the general condition is the text of this paper. This has always seemed to me a much neglected field. In elucidating this subject it will be my endeavor to keep in mind two prime requirements; namely, brevity and sanity.

To make good the first of these, I omit all hinderances to respiration occuring in the course of acute disease, whether in the form of dyspnea, apnea or recurrent asthmatic attacks of central or peripheral origin. Included in this review are the results of processes that have passed the acute stage and failed of absolute *restitutio ad integrum*. And I further limit the scope of this paper by confining my remarks to unresolved infiltrations of the lung tissue and more particular of the pleuræ.

Finished morbid processes may be classed under nine heads. Either process may be *inactive* or become *acute* from time to time. So far as their effect upon the respiration is

concerned, they all have two features in common: *Permanency* and *progression*.

1. Unresolved foci of catarrhal pneumonia—mostly in the upper lobes.
2. Unresolved croupous pneumonia—lobar and preferably in the right lower lobe.
3. Unresolved interstitial pneumonia leading to cirrhosis of connective tissue (chronic peribronchitis)—posterior aspect of both lungs.
4. Demonstrable tubercular foci.
5. Multiple tubercular cavities—the result of mixed infection.
6. Large surface cavities.
7. Unabsorbed serous pleurisy (hydrothorax)—single or double, inflammatory or tubercular.
8. Unremoved pus in the pleural cavity.
9. Unresolved fibrous pleurisy either as remnant of acute attack or chronic from its incipency—mostly on a rheumatic basis.

Of these conditions, 2, 7, 8 and 9, constitute, as a rule, a permanent mechanical hinderance to respiration. Note also that these conditions exist in the lower lobes of the lung and at the diaphragmatic end of the thorax, more or less seriously impeding excursions of the diaphragm.

What of the other conditions mentioned above? The mischief done by the presence of any process in the lung—apart from renewed activity of inflammation and infection, is:

1. They all operate by *pressure* or *traction*, or both. So do tumors and aneurisms, not now under consideration.
2. Both infiltration and compression *reduce the respiratory territory*.
3. Interfere with proper oxygenation of the blood.
4. Force increased activity of the right ventricle of the heart.

For all practical purposes, both in diagnosis and therapeutics, it is quite correct to assert that all of the conditions enumerated act by pressure, whereas real *traction on the respiratory apparatus is exercised by pleuritic adhesions only*.

Pleuritic adhesions all have the two attributes mentioned above: They are *permanent* and *progressive*. Thickenings already on hand are there to stay and gradual encroachment from their periphery to uninvolved tissue is the rule.

For convenience sake, let me speak of pleuritic adhesions as *linear* and *flat*. The former occur along the inner edges of the sternum, the inner edge of the scapula and last, but of the utmost importance, on the upper surface of the diaphragm. The "flat" variety occurs in the infra axillary region and is the most aggressive as to progression.

I am well within the truth in saying that the most neglected field in medicine and the most slipshod diagnoses have to do with the existence, effects and treatment of pleuritic adhesions and their mechanical effects. The touch (palpation) and the eye in microscopic research are trained to a nicety in the medical schools. Why not the ear? The graduate who leaves college without proper appreciation and significance of tonality, pitch, rhythm and *tempo*, had better go home to his mother—and stay there.

It ought not be necessary to reconcile ourselves to the idea that still another generation must pass before the real truths of auscultation filter into the text-books and from the text-books to the medical students.

It will be asked, of what sins do I complain? They are both of omission and commission. How many practitioners ever discover and take cognizance of diaphragmatic pleural adhesions? Is it not true that diminished respiration in the upper lobes of the lung is invariably placed to the credit of an infiltration when, as a matter of fact, in the great majority of those cases, *full respiration is made impossible by traction of pleuritic adhesions in the subaxillary region.*

There might be some excuse for such errors if it were difficult to arrive at the diagnosis and the therapeutic measures based on error not so prolific of disaster. No thoracic examination is complete without applying the stethoscope along the borders of the lung, anteriorly and posteriorly. The main points in the recognition of pleuritic adhesions may properly be rehearsed here. They are differentiated from other sounds—because they are directly under the ear; they differ in pitch from other abnormal sounds; are for the most part heard in inspiration and expiration; because of locality, above referred to; because, as a rule, the patient is a "shrinker."

A much neglected and overlooked spot, to which I desire to draw attention, is the acromial corner of the lung—notably the left. The leathery r  le heard here over a small area

is a compound of pleuritic friction and lobular agglutination, and a chronic breeding place for the bacillus tuberculosis.

It should not be necessary to point out that percussion must never precede auscultation. That this error is still perpetrated is much to be deplored. If we wish to find out what is going on in the lung, it is surely best to ascertain this by the ear. We would not think of looking into a microscope with the ear. Percussion, therefore, is useful only in confirming the auscultatory find. Now, if one looks carefully over finished morbid processes in the lung, it will be found that in the majority of conditions the percussion find is at variance with the results of auscultation. It appears to me quite safe to establish this maxim :

Percussion should be made the basis of differential diagnosis in physical exploration of the respiratory organs.

The existence of pleuritic adhesions acting as a mechanical hinderance to respiration having been established, it is in order to take cognizance of the effect. This effect (as yet not incorporated in the text-books) is a *permanent disturbance of the rhythm of respiration.*

When a patient presents himself who draws four or five fairly deep inspirations unconsciously, followed by a conscious forced effort for the next inspiratory act, carefully examine for diaphragmatic or subaxillary pleuritic adhesions.

This article will not concern itself with therapeutical measures. At some later date I will discuss the merits of medical resolvents and surgical interference. What I am anxious to impress upon the minds of my colleagues is the very great importance of searching the thorax for conditions that are not suspected in connection with the subjective feelings of the patient and yet are far-reaching in their baneful effects.

Retrouterine Hematocele.

By W. C. GAYLER, M.D.,

ST. LOUIS, MO.

WHILE in Prof. Döderlein's Frauenklinik in Tübingen, Germany, it was my good fortune to be permitted to re-examine thirty-six women who had suffered from a retrouterine hematocele, and had been treated by the various methods. The object of this examination was to find out what method of treatment permitted of the most rapid recovery, and which method produced the best ultimate results. The patients, who lived in the surrounding country, were given railroad fare and expense money, and told that an examination at the hospital was necessary for their welfare. This was not true, but was very necessary in order to permit us to carry on our investigations.

The general consensus of opinion is that almost all retrouterine hematoceles are caused by one of the results of an ectopic pregnancy. The great majority of cases are caused by the abortion of the contents of a pregnant Fallopian tube. Cases which are caused by the rupture of a tube are comparatively rare.

Zweifel¹ says that practically all hematoceles are caused by extrauterine pregnancy. Adding that the idea of a hematocele caused by a reversed menstrual flow is antiquated. However, there are reported in the literature many authentic cases in which a pregnancy of no kind enters as an etiological factor.

Schambacher² performed laparotomy on fourteen cases, and found that four of them were not caused by an extrauterine pregnancy.

Kober³ reports two cases, one of which was caused by the lifting of a heavy weight, and the other by a violent coition.

Mundé⁴ reports three cases following dilatation of the cervix, and curettement of the uterus.

I can not understand these three cases and can not help

thinking that the curettement must have been very violently done.

Thirty-three of our cases were caused by tubal abortion, two by tubal rupture, and one was, without a doubt, caused by an escape of menstrual fluid into the abdominal cavity. This last one was a very beautiful case. A young woman, who had never conceived, who claimed never to have had sexual intercourse, and whose hymen was intact, entered the hospital with a soft tumor in the cul-de-sac. The tumor decreased in size during the month but when the menstruation came again, it very appreciably increased in size. This was repeated regularly for several months.

We all agree that patients who have an uninterrupted extrauterine pregnancy, and those who have an extrauterine pregnancy which has been violently interrupted, should be operated upon at once. There are many opinions, however, as to what the method of procedure should be, when a hematocoele has formed.

I find on looking over the newer literature, for which I am partly indebted to Drs. Lutz and Ehrenfest, that a more intimate knowledge of the pathology of tubal pregnancy, gained within the last two years, has changed the opinion in regard to the treatment of these cases. It has been found that the mucous membrane of the tubes is incapable of the rapid hypertrophic changes that take place in the uterine mucous membrane, immediately after the egg has forced its way into it. As a result, the chorionic villi force themselves between the connective tissue fibers and muscular fibers of the tubes themselves.

Zweifel¹ reported a case in which a small clump of chorionic villi pierced the peritoneal covering of the tube, causing an almost fatal hemorrhage.

Thorn thinks that the villi which force themselves into the substance of the tubes can not do much damage, as they must soon die of lack of nutrition.

Shenk² thinks that the anatomical discoveries have not yet been fortified by clinical experience; insisting, rather, that the clinical experience points the other way.

Laparotomy was performed in eighteen of our thirty-six patients. One died of sepsis, fifteen were absolutely well at the end of four years, and two still complained of pains and

discomfort in the pelvis. The average time until the complete recovery of the fifteen who did recover was six weeks.

The three who had been operated upon by way of the vagina were absolutely well. The period of convalescence was very short, and two again became pregnant.

Only thirteen of the fifteen who were treated conservatively responded to our request to return for re-examination. Eleven were freed of their complaints and showed no abnormalities upon internal examination. Two still complained of pain, a feeling of fullness and pressure in the pelvis, and had a decided resistance in the cul-de-sac upon internal examination. One of these was the virgin of whom I spoke before. She refused to submit to an operation. The average time that these people stayed in the hospital was twenty days, and the average time until their complete recovery was a little more than four months.

These observations teach, I think, that these patients should be given three weeks' trial conservative treatment, in an institution, where surgical interference is conveniently at hand all the time.

[3904 LACLEDE AV.]

REFERENCES.

- ¹Zweifel.—Muenchener Med. Woch., No. 34, 1903.
- ²Schambacher.—Centralblatt f. Gynäkologie, No. 36, 1903.
- ³Kober.—Ibid., No. 22, 1903.
- ⁴Mundé.—American Journal of Obstetrics, March, 1901.
- ⁵Henk.—Muenchener Med. Woch., No. 16, 1903.

Adiposis Dolorosa.

Paul Sainton and Jean Ferrand describe this affection, to which attention was first called by Dercum in 1888. It occurs, as a rule, in women over 40 years of age, pain in some limb being usually the first symptom, followed by the appearance of either limited or diffuse tumors of lipoma-like consistence. Asthenia accompanies these symptoms and ranges from slightly impaired muscular movements to an absolute refusal to leave the bed. Psychological troubles are also present in greater or less degree. The pathogenesis of the affection is not as yet well understood. As to treatment, extirpation of the nodular tumors has usually been followed by their re-appearance; massage has given good results in some cases, possibly by improving the general condition.—*Gaz. des Hopitaux; Medical Record.*

SPECIAL ARTICLES.

Bovine Tuberculosis A Factor in the Causation of Human Tuberculosis.

By MAZYCK P. RAVENEL, M.D.,

Bacteriologist to the State Live-Stock Sanitary Board of Pennsylvania; Assistant Medical Director to the Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis.

THE work of Villemin in 1865 first proved definitely that tuberculosis was a communicable disease, and also went so far to show the unity of the disease as is seen in man and the lower animals. Whatever doubt may have existed as to the accuracy of his teachings were dispelled in 1882 by the discovery of the bacillus of tuberculosis by Koch, who demonstrated also that the same germ caused all the various manifestations of the disease seen in different parts of the body and in different species of animals. Based on this opinion, laws were made in almost every civilized country in the world regulating the use of milk and meat from tuberculous cattle in order to protect man from the source of infection.

Until 1896 there was a practical unity of opinion among physicians on these points. In this year Dr. Theobald Smith showed that the tubercle bacillus as found in cattle had a very much greater power of producing disease than that ordinarily found in man. It remained for Koch, however, in repeating Dr. Smith's experiments, to draw the sweeping conclusions that tuberculosis of man and tuberculosis of cattle were so different in their nature that it was impossible to transmit human tuberculosis to cattle, and that man had little or no cause to fear contagion from cattle.

These views were so subversive of existing beliefs and so radical in their effects on public-health laws that a storm of protest was aroused, and much study of the subject has resulted.

I wish to examine into the soundness of the stand taken by Koch in the light of the evidence at hand. This subject may be approached from three standpoints—first, direct experimental transmission of tuberculosis from man to animal; second, clinical evidence of its transmission from animals to man, and third, theoretical considerations. The first point is susceptible of direct experimental proof, and can be disposed of in a few moments. Chaveau was the first, in 1868, to prove that cattle could be infected with tubercular material from man. He succeeded in infecting his animals through the digestive tract by intravenous inoculation and by subcutaneous inoculation. At the time tuberculin had not been discovered, but Chaveau foresaw the objection that might be raised as to the previous existence of tuberculosis in the experimental animals, and guarded against it by selecting them from the Jura Mountains, where the disease was unknown.

In 1879 Bollinger succeeded in transmitting tuberculosis of man to cattle, and of others who have made similar experiments I may mention Klebs, Crookshank, Mitt, Sidney Martin, and more-recently, since the publication of Koch's paper in 1901, Thomassen, Nocard, DeLong, Arloin, Westenhoffer, Max Wolff, Schottelius, Febiger and Jansen, and Hamilton and Young. At the laboratory of the State Live-Stock Sanitary Board of Pennsylvania we have also succeeded repeatedly in transmitting human tuberculosis to cattle. These experiments were done before the publication of Koch's paper, and most of them reported at the London congress in 1901.

I may single out from this list the experiments of Hamilton and Young, which have just been published. They began with twenty calves, one of which died during the preliminary period of observation from some intercurrent affection. Nineteen were inoculated with human material, and of these, fifteen developed tuberculosis, while four resisted the inoculation. The diagnosis of all fifteen of these cases were made by macroscopic and microscopic examinations, as well as by the reinoculation of guinea pigs. Lastly, in this connection we have the report of the Imperial Sanitary Office of Germany, which will be considered later at greater length, where out of sixteen inoculations made with material taken from children they succeeded in producing tuberculosis in cattle four times, or 25 per cent. In other words, in one-quarter of all

cases of tuberculosis in children examined by them they succeeded in transmitting the disease to cattle.

The second phase of our subject is the consideration of transmission of tuberculosis from cattle to man, and here we are deprived of the benefit of direct experimental evidence. We have, however, a number of cases in which accidental inoculation has taken place, some of which have ended in general infection, followed by death. I myself had four such cases come under my observation, two occurring in an assistant in my laboratory. In both of these cases the source of infection was known to be bovine, which was further proven by the excision of the lesion, the inoculation of guinea pigs, and the isolation of the bacillus in pure culture. I have here a photomicrograph of a section taken from one of these cases. In addition to this, cases have been reported by Krause, Troje, Spronk and Hofnagle, Lassar, Tschering, Pfeiffer, Hartzell, Kurt Muller, DeLong, Joseph and Trautman. I will give the details of only one of these, the case reported by Troje, which is one of the most typical and is able to bear the most severe criticism. The journals report that this case was submitted to Koch, who agreed that there was no point lacking in the evidence.

A young butcher in good health, and with no hereditary taint, wounded his right forearm slightly while working on a tuberculous cow. The wound healed under treatment, but six weeks later showed signs of inflammation, and a tubercle formed on the internal face of the elbow. There were two small fistulæ on the forearm, and enlargement of the ulnar and axillary lymph glands. A month later the middle forearm was covered with granulations, which steadily increased in area, and in spite of treatment, at the end of two months assumed the character of lupus. Histologic examination at this time proved the tuberculous character of the disease. Two years after the injury Troje found an abscess which extended into the deep muscular layers. The pus contained tubercle bacilli, and the tissues showed typical tuberculous lesions. Some months after the glands of the left axilla and subclavicular space were extirpated and proved to be tuberculous. All possibility of infection from human sources were excluded by Troje.

The second consideration under this head is inoculation by ingestion. It has been proven repeatedly by experiments

that ingestion is an easy way in which to infect animals, and we have good evidence that in mankind such cases occur also. It must be admitted, however, in our clinical cases that all of them have some defect, inasmuch as we can not exclude positively all other sources of infection. In regard to this, however, the evidence is as good as we have in cases which we admit to be by inhalation. It is generally accepted by all who have worked along these lines that inhalation of dried sputum is the chief source of infection from man to man, and yet, if we demand strict proof of this, very little evidence can be adduced. Of the cases of clinical evidence through feeding which has passed into literature I may mention those of Von Ruck, Stang, Demme, Gosse, Ollivier, Law, Ebers, Bang and Rievel—thirty-eight cases in all, where the evidence is very direct and very strong. One of these cases reported by Gosse, of Geneva, is so strong that Nocard has well said, "It has almost the value of an experiment." Gosse was a physician himself and the son of a physician. His own daughter was infected by drinking the milk of a cow with tuberculosis of the udder on his own farm, and he had the remarkable courage to perform a post-mortem and give the results to the scientific world.

Directly in line with infection by ingestion comes the consideration of post-mortem evidence, which is somewhat contradictory. In England, for instance, we have a general average of primary intestinal tuberculosis of something over 25 per cent. In London Guthrie reports at the Children's Hospital at Paddington 24.6 per cent; Still, at the Great Ormond Street Hospital, 23.4 per cent; Shennan, at the Royal Hospital at Edinburg, 26.1 per cent. In Germany, according to Koch's figures, the average is very low, but it must be said that he has not so far given a fair consideration of the available evidence. We have the report of Heller, of Keil, who, while he found only 1.43 per cent of primary intestinal tuberculosis, found but 37.8 per cent in which the principal lesion was in the intestine, the mesenteric gland, or the abdominal organs, so that we may conclude that all of these cases were of intestinal infection. Furthermore, Prof. Hueppe, of Germany, states that the percentage of primary intestinal tuberculosis in Germany varies from 25 to 30 per cent. We have also the figures given by Von Hanseman, of Berlin, who states that he has seen twenty-five cases of intestinal tuberculosis during

seven years, and considers it much more common than is generally believed.

In America we have not a great collection of figures on this point, but with perhaps a single exception those at hand indicate a much smaller percentage of primary intestinal infection. This difference in different countries and in different parts of the same country is, no doubt, due in part to a difference in local conditions, but is more largely due, perhaps, to the method of observation and the interpretation of results. The finding of the oldest lesion in the lung does not, in my opinion, at all indicate that infection was through the respiratory tract. In our work at the laboratory of the State Live-Stock Sanitary Board we have been repeatedly struck with the extensive involvement of the lungs in cases which were infected by feeding, when the intestine of the same animal showed either very slight lesions or no lesion whatever.

Among the specimens in the exposition you will find several which illustrate this point. You will see there the intestines and lungs of two monkeys which were infected by feeding with pure cultures of tubercle bacillus in a series of experiments of the comparative virulence of the human and bovine bacilli. In both the lungs are extensively diseased. We were unable to find any lesion whatever in the intestine of one, and in the intestine of the other (A 45,007) there was only a slight lesion, with enlargement and caseation of three of the glands in relation to the upper part of the tract. There was found, however, enlargement and caseation of the cervical lymphatic glands, indicating infection through the tonsil or some part of the throat, a method of infection which is more frequent in children than is generally believed. If these two specimens were shown without any history, most pathologists would put them down as instances of respiratory infection, yet they were kept under conditions which precluded the possibility, and were tested with tuberculin before the experiment began. You will see also along the lung of a cow showing cavity formation. This animal was also infected by feeding, and in spite of the extensive involvement of the lungs, no injury could be found in the intestinal tract. Lastly, you will find the tonsils of a pig showing deep ulceration, and the lungs of the same animal, which are thickly sewn with tubercles. This pig was one of four, two of which were fed human and two bovine tubercle bacilli. All of them contracted general

tuberculosis, most marked in the lungs, and ending in death. Three of the four presented lesions similar to the one shown, while in one only could any injury of the intestine be found. In three the cervical and mediastinal glands were markedly involved.

I am prepared to go even further than this, and hold that even when infection takes place through the intestine we may have the first and oldest lesion show itself in the lung. The late Professor Nocard, while collecting a serum from horses for culture medium, found that if he collected his blood at a certain period of digestion his serum would become contaminated even if he divided it into small lots of 100 cc. each. On the other hand, if collected during fasting, he could preserve his serum in liter flasks without the loss of a single one. In seeking an explanation for this two of his assistants, Desoubry and Porcher, found that if they fed dogs with soup containing a considerable amount of greasy material, and then collected the chyle during digestion, they would find many colonies of bacteria in plates made from this material. On the other hand, when they gave the dogs a plain bouillon without grease no bacteria whatever could be detected in the chyle. During the past winter at the laboratory of the State Live-Stock Sanitary Board we have carried out similar experiments. We would keep a dog under observation some days to determine that it was entirely healthy. Then a purge of castor oil was given to clear out the intestine, after which the animal was fasted for twenty-four hours. At the end of this time a single meal consisting of equal parts of melted butter and warm water made into an emulsion, in which tubercle bacilli were stirred, was given. After three to four hours, during active digestion, the dog was chloroformed, and as much chyle as possible collected, together with the mesenteric glands. The intestine of the dog was in every instance examined throughout, and in two animals microscopic sections were made from several portions of the intestines. In all cases they were found to be entirely normal.

In ten animals experimented on we found tubercle bacilli in eight, showing that the tubercle bacilli can pass through the perfectly healthy intestine without leaving any trace, and this takes place in a very short space of time. When we remember that the chyle goes directly into the thoracic duct and is thrown into the circulation near the heart, from which it passes

to the lungs immediately, we can understand that infection through the intestine may readily show itself first in the lung. I have here a photograph of the organs of a guinea pig inoculated with material from one of these dogs which, I think justifies me that the tubercle bacilli pass through the intestine in large numbers. The extent of involvement in this guinea pig shows, I believe, that the material with which it was inoculated contained many tubercle bacilli. When an observer tells me he has found no evidence of primary intestinal tuberculosis I ask him to explain the large number of cases of mesenteric involvement and of peritoneal infection, which must have taken place by the passage of tubercle bacilli through the intestine, although the intestine itself may show no injury. Professor McFadyean, of the Jenner Institute, has recently published a paper bearing on this point and bringing out a fact of great interest. In a comparative series of experiments he fed some monkeys bovine tubercle bacilli and some human. Those infected with bovine material showed no intestinal involvement whatever, but general infection of the lungs and abdominal organs, whereas those fed with human material showed intestinal involvement, together with infection of the other organs of the body. This point needs to be investigated further, but so far as it goes indicates that the bovine tubercle bacillus passes the intestinal wall without producing lesions, whereas the human tubercle bacillus in passing leaves a mark of its effect. In the experiments done by myself the bovine tubercle bacillus was used in the eight successful cases.

Perhaps the strongest evidence we have of the infection of human being by the bovine tubercle bacillus is the finding of bovine tubercle bacilli in the intestines of children who have died of intestinal tuberculosis. The first of these cases reported was from the laboratory of the State Live-Stock Sanitary Board, the material having been sent by Dr. Alfred Hand, of the Children's Hospital in Philadelphia. His pathological report stated that it was the clearest case of intestinal tuberculosis that he had ever seen. The organism was isolated in pure culture, and found to correspond in every way with the bovine tubercle bacillus. It proved fatal in two calves in seventeen and twenty-seven days, respectively, and a six-year-old cow succumbed in seventeen days. This organism was sent to Dr. Theobald Smith, who examined it by his recently-described method of cultural differentiation. He pronounced it to be the bovine organism.

Dr. Smith has added his name to the list of those who have found bovine tubercle bacillus in the intestine of children. During the past year Dr. deSchweinitz, of the Bureau of Animal Industry, has found two cases in which the infection was evidently of bovine origin, as judged by the virulence of the bacillus isolated for cattle, the test proposed by Koch. In Europe Febiger and Jensen have reported three such cases and the Commission of the Imperial Sanitary Office of Germany, as before stated, has found four cases out of sixteen examined.

We may pause here a moment to consider the report of this Commission, which is remarkable. Cultures were obtained from thirty-nine sources, twenty-three of which were adults and sixteen children. There were nineteen cases of pulmonary phthisis, four cases of bone tuberculosis, two cases of cervical adenitis, one case of genitourinary tuberculosis, six cases of miliary tuberculosis and seven cases of the digestive tract. Of the thirty-nine cultures examined nineteen produced no lesion in cattle, nine caused a slight enlargement of the glands of the shoulder, without tendency to generalization, seven a somewhat more marked involvement of this gland, while four, all obtained from children, caused a generalized infection. Two of these four cases are described as "miliary tuberculosis," beginning from a bronchial adenopathy and a mesenteric adenopathy, respectively, while the remaining two were cases of intestinal tuberculosis. The cultures from the last two showed a very intense virulence to calves.

The Commission points out that two of these four children did not die of tuberculosis, hence they conclude that in only two out of the thirty-nine cases are they able to say that infection with the bovine tubercle bacillus has caused fatal tuberculosis in man. It is difficult to see the force of such reasoning.

Thus, from the camp of the enemy, if I may use such an expression for a scientific discussion, where our aim is only to know the truth, we obtain the strongest evidence that bovine tuberculosis is transmissible to man. We must either admit that all of these were cases of bovine infection of children or we must say that the human and bovine bacillus are one and the same. From the hygienic standpoint it makes very little difference which view we take.

Professor Orth, in answer to the report of the Commis-

sion, places different interpretation on their results, and one which appears more rational. He holds that the seven animals which showed marked involvement of the lymph glands of the shoulder should be considered as infected with human tuberculosis; that the infection was not more grave proved only that in cattle, as in man, tuberculosis may undergo spontaneous cure. Of the thirty cultures studied, he considers that eleven, or 28 per cent, were virulent enough to infect cattle.

There remains but one more consideration, and that is the information to be obtained from the study of the tubercle bacilli derived from different sources, and credit belongs to an American, Dr. Theobald Smith, for having demonstrated the difference in cultures obtained from human and bovine sources.

The human tubercle bacillus is much easier to obtain in pure culture than the bovine. In the first generation a luxuriant growth will often take place, and generally subcultures can be obtained on glycerin agar from the first generation. Cultures for several generations show only an exceedingly thin layer on the surface of the medium, oftentimes resembling ground glass. Some cultures require six to eight months before enough growth can be obtained with which to inoculate animals. Growth on glycerin agar will take place only after the organism has been cultivated for several generations on blood serum. Some cultures which I have isolated have required a year before a growth on glycerin agar would take place.

The staining characteristics of the two organisms are somewhat different. The human bacillus is long, slender and shows beading, whereas the bovine bacillus is thick, shorter and stains evenly. I do not feel, however, that a positive diagnosis can be made between the two organisms by the characteristics just given. The chief difference between them is their virulence. The bovine tubercle bacillus has a pathogenic power tremendously in excess of that shown by the human bacillus, and this holds true of all experimental animals which have been tried, with the exception, perhaps, of guinea pigs and swine. These two animals are so susceptible to both types of the bacillus that it is hard to draw a distinction. The animals experimented on include horses, donkeys, sheep, goats, dogs, cats, rabbits, guinea pigs and monkeys. There is abso-

lutely no case in literature, so far as I am aware, in which one single animal has been found to be more susceptible to the human tubercle bacillus than to the bovine. This greater virulence of the bovine tubercle bacillus is shown by whatever method of inoculation we use.

As said by Villemin, man shares with cattle the sad privilege of perpetuating tuberculosis. Would it not, then, be an anomaly for man, who is acknowledged to be one of the most susceptible of all animals, to be an exception to this general rule of increased virulence of the bovine bacillus? If all other animals excepting those which are equally susceptible to them both succumb more quickly to the bovine bacillus than to the human, would it not be strange for one of the most susceptible of all animals to show an immunity to the most virulent form of tuberculous virus known? Our nearest relative, the monkey, also shows this greater susceptibility to bovine infection in a marked degree, as proven by de Schweinitz, DeLong, at the laboratory of the State Live-Stock Sanitary Board of Pennsylvania, and by other. Therefore, I feel that we are justified in concluding that this greater virulence probably holds good for man also.

In concluding, I wish again to call attention to one point, which by itself alone proves that bovine tuberculosis is a factor in the spread of the disease in the human race, namely, the finding of the bovine tubercle bacillus in the intestinal tract of children. On this ground alone we can rest the case, even if there were not so much corroborative evidence. The proportion of cases in which this finding has been made is large, though exact figures are not at hand. The German Commission found the bovine bacillus in four out of sixteen cases examined; de Schweinitz has found it twice in four cases, and at the laboratory of the State Live-Stock Sanitary Board I have found it in two out of five cases examined.

We are, then, justified in saying that bovine tuberculosis is transmitted to the human race, chiefly to infants, in a certain proportion of instances, and is, therefore, a menace to human health. Our present knowledge does not enable us to define exactly the extent of the danger, but that it exists can not be denied. It is, therefore, the duty of physicians and officers of health to take every precaution against the infection of many by tuberculous cattle and their products.—*Maryland Medical Journal*, February, 1904.

LEADING ARTICLES.

FOURTH ANNUAL REPORT OF THE CANCER LABORATORY OF THE NEW YORK BOARD OF HEALTH.

Conducted at the Grantwick Research Laboratory, University of Buffalo.
For the Year 1902-3.

By CARL FISCH, M.D., St. Louis.

There are in existence to day in various countries laboratories destined and devoted to the investigation of cancer problems. While of most of them it must be said, that they do their work with that degree of independence and impartiality, usually thought the *conditio sine qua non* for advance of science, the Buffalo Institute has from the beginning worked only and alone under the influence of a *preoccupatio animi*, the belief in a parasitic origin of the malignant new formations. To demonstrate these parasites, to interpret the clinical and biologic peculiarities of a cancerous individual by the action of parasitic organisms, is the aim that alone is pursued.

As, finally, everything can, by analogy and similarity, fitted to something else, the result is, that important pathologic and clinical knowledge is neglected, being of inferior value as compared with the completeness of the picture painted by the parasite hunters. At the Buffalo Institute nobody doubts that in the end, the parasite idea will win, and all efforts are directed only toward the more solid foundation of this theory.

The work done consists mainly in the interpretation of phenomena unknown in origin and causation as evidence of parasitic life utterances. No attempt is made to forget for a moment this fascinating conception and to rather confess an ignoramus. Pathology has never refuted the possibility of a parasitic origin of carcinoma, but it has insisted on the fact that if there is a parasitic origin here, it must be of a character totally different from all actions of parasites so far known to us. We know not of a single organism, that leading a parasitic life in

an animal host gives rise to pathologic changes in the least partaking of the character of malignant new formations.

The basis of the whole parasitic theory lies in the observation, that in cancerous tissue certain formations occur, morphologically, and in some staining-reactions resembling certain changes of the development of protozoa. What these bodies are we can not, in all cases, say, although in many there is no doubt of their degenerative character. One might stick to suspecting them as parasites, if they were regularly found and present in number sufficient to allow of the thought of their etiologic importance. As a fact, many malignant tumors, and rapidly-growing and metastatic ones, never contain them, or only in such scarcity that they are easily overlooked. It would not do, like Gaylord does in this report, to analogize processes of hypertrophy caused in a vegetable organism by a protozoon-like being with the observation that always only the minority of cancer cells contain these bodies. In the clubroot disease of cabbage the plasmodiophora dominates the picture, in carcinoma the youngest metastases never contain the parasites.

The study of the development of plasmodiophora and of the interaction between it and the host-plant is very fascinating, although Gaylord has not added much to what was long-since known, but to construct analogies to human new formations from it would necessitate, in the first place, a thorough knowledge of the existence of a cancer parasite. This we have not, yet there is nothing that would objectively point to its existence, and attempts to build up the picture of a nuclear division in so-called parasites is futile, as the careful study of the follicular cells of any maturing ovum of any ovary will show. A great obstacle to fully appreciate the objections to be made against the parasitic theory is the impossibility, that so far obtains, to positively interpret the meaning of all the forms described as Plimmer's bodies, amebæ, Russell's bodies or yeast cells.

Our knowledge of the more intricate changes going on in the plasm and nucleus in pathologic and even in normal conditions is far from complete, and as long as this is not achieved, findings like the cancer parasites should be carefully sidetracked as unexplained. Not for a single tissue we are in the possession of information, of what changes occur in it not under pathologic, but under normal conditions in the course of its life; the expression, senile changes, means noth-

ing if it comes to the question, in what way and by what transformations they are brought about. We know too little about these problems, to call right away some unusual formation a parasite just because we have concluded that there must be a parasite.

The report contains nothing that can be impartially considered as a step forward in clearing up the origin of cancer. This does not mean that the work done and published is of no interest or value. The contribution of Gaylord on *Plasmodiophora* is very important and an ornament of the volume. Calkins, in his suggestions for the biological study of cancer, has in a very suggestive way arrived at possible ways of investigation, based on general biologic principles. Interesting, also, are the statistical reports about two cancer districts in the State of New York, by Lyon. Whether they can be utilized for the demonstration of a hereditary or infectious nature of the new growth is doubtful, but they are a valuable addition to other similar statistics

DIABETES MELLITUS.

By E. A. BABLER, M.D., St. Louis.

During the past few months quite a number of valuable monographs relative to the etiology and treatment of diabetes have appeared in the current literature. but it seems as though the physiologic chemist has been unable to solve the problem of the affection, as was anticipated, and again returns to the clinician asking for more complete and accurate data.

The recent theory of Cohnheim, who asserted that the pancreas, especially the islands of Langerhans, produced an internal secretion which was not directly glycolytic but becomes so when acting in conjunction with a ferment produced in muscle, has found a strong supporter in Lépine.¹ This latter investigator is convinced that several glycolytic processes take place in the tissues, variable in their function and mechanism. He further holds that there are a number of glycolytic ferments, and that the one in the blood is aerobic. Also that the glycolytic power of the blood is enhanced by increased alkalinity, and by stimulation of the pancreas. This latter was accomplished by faradization of the nerves accompanying the pancreatico-duodenal artery. Massaging the organ has the same effect.

The sugar-destroying power of the blood is also enhanced by ligation of the pancreatic duct. He agrees with Pavlov that the acidity of the stomach influences its pancreatic secretion. Reference is made to the article published in 1899, in which he announced that pancreas tissue favored alcoholic fermentation. Mention was also made concerning the effect of previous stimulation of the pancreas.

Ramus² refers to Lépine's researches, and then attempts to account for diabetic phenomena on the theory that they are the expression of an abnormal condition wherein the hypothetical alcoholic function of the pancreas is disturbed. He believes that the *normal internal secretion* of the pancreas converts dextrose into alcohol before the tissues can make use of it, hence it naturally follows that the function must be impaired or interfered with in true diabetes mellitus. He further contends that if the liver were the seat of the assumed normal alcoholic change in the condition of dextrose, then there would be found no free dextrose in the blood except in minute amounts like glycogen, for all sugar would be immediately seized and stored up as glycogen, never to be released except in the form of alcohol.

Levulose is more rapidly and easily converted into alcohol than is dextrose by the pancreatic enzyme, thereby explaining the property of levulose to form glycogen and diminish glycosuria. The tendency toward acidity in the blood in later stages of the disease, with the development of acetone, diacetic acid and beta-oxybutyric acid, is explained by the deterioration of the intestinal juices and failure of the liver to destroy poisonous substances developed in the intestines, thus permitting their entrance into the portal circulation and eventually into the arterial channels. The use of alcohol in health is absolutely condemned.

In conclusion, he says: "From the standpoint of the alcoholic theory in physiology, based on experimental and clinical results, it would appear that in alcohol we possess the most efficient agent for sustaining the vital sources of the system when its functional activities are paralyzed by the inroads of various diseases, whose presence necessitates the subordination of all other functions to those immediately engaged in the work of repelling the invasion.

Elliott³ defines the mild type of diabetes as an impairment of the power of the organism for assimilating the carbohydrate principles of food, so that hyperglycemia results and sugar appears in the urine.

The symptoms depend for their origin on the presence of sugar in pathologic amounts in the blood. When the glycosuria is controlled by reduction of ingested carbohydrates, more or less prompt subsidence of all symptoms ensue in this form of diabetes.

In the severe form, complete withdrawal of the carbohydrates from the diet has very little effect in diminishing the amount of sugar in the urine. Progressive emaciation, polyphagia and a gradual deepening toxemia characterize this form of the disease. In these cases the sugar is derived from the systemic albumin as well as from the carbohydrates of the food.

As to treatment, he believes, that in mild cases, the antidiabetic diet yields the desired result. In the severe cases we can not hope to suppress the glycosuria or control the dystrophy.

This writer contends that since preservation of body albumins, under all circumstances, must constitute the standard which is to guide us in our regulation of the diet, the endeavor must be made not to only maintain the strength but, as far as possible, add to the store of bodily energy, hence it is evident that the body weight becomes the criterion of our success, and not the amount of sugar in the urine.

The course to be pursued in the diabetic treatment of diabetes is in the amenable stages of the disease, to allow the patient as liberal an allowance of carbohydrates as the patient can assimilate, and in the severe stages as much as is found necessary to hold in check the dystrophic advance, bearing in mind the important fact that carbohydrates only act as albumin-sparing bodies when their ingestion is followed by at least partial assimilation. Every artifice must be employed to introduce the largest amount of fat that the patient can take.

The diet should be so adjusted, as far as possible, so as to provide sufficient food calories for the systemic needs in easily available forms, such as carbohydrates, fats and alcohol. When this has been accomplished the bulimia disappears.

In decidedly toxic cases experience has proved that an increase in the acetone and acid toxins is inseparable from the strict diet, and the liability to coma is greatly increased by such a measure. It may be assumed that if on a mixed diet the patient's urine does not yield the ferric chlorid reaction one may, without danger, restrict the carbohydrates. If, on the contrary, the ferric chlorid reaction be present it would be a great mistake to attempt the strict or absolute diet.

Croftan⁴ took exception to the essayist's statement, that the weight-test should supplant the sugar-test in diabetes ; for if we gauge the result of our treatment of these cases from fluctuations in their weight we may be misled.

Elliott has never seen a case of diabetes mellitis in the negro ; this concurs with Tyson's experience.

Edsall⁵ calls attention to the fact that it is not the power of using all starch material which diabetic patients have lost, but that of properly elaborating certain forms of starch which occur in an ordinary diet.

The term diabetes, in its strict etymologic meaning, that unused material goes through the body, and its limitation then to the tendency of sugar to *run through* the system without accomplishing its purpose, is unwarranted by the results of thorough and competent investigations.

Edsall leans toward Lépine's conclusion that several glycolytic processes take place in the tissues. He thinks it not impossible that there is a special ferment for each form of sugar, and that every kind of starch from every different vegetable is acted upon differently before it is ready for use in metabolism.

Thomson⁶ is averse to prescribing the opium derivatives in diabetes, since he believes that no permanent good can possibly follow the administration of medicines of this class. When cod-liver oil is taken freely and well borne it diminishes the sugar and the excess of urea is eliminated. He tries to give diabetic patients as much iron as possible. The old-fashioned Hooper's pills are given to avoid constipation. As a medicinal antiseptic he advises arsenic. Powders, containing 15 grains each of antipyrin and benzoate of sodium are given every four hours in severe cases, after a time he gave 15 grains of aspirin and 10 grains of bismuth salicylate.

Continued use of alkaline waters tend to a wasting of flesh, hence should not be given to patients losing flesh.

In case of diabetic coma he resorts to prolonged intestinal irrigation with normal saline solution, which he considers to be our most trustworthy diuretic.

Stern,⁷ after reviewing the literature, draws the following conclusions :

1. The diabetic state may be established before glucose is excreted by the urine.

2. Glycosuria is a symptom of many other disturbances, both ectogenous and endogenous.

3. With the aid of other disturbing factors it is possible to differentiate between the diabetic and the non-diabetic form.

4. Duplex mellituria is the result of two concurrent or intercurrent affections of dissimilar character, having glycosuria as the one symptom in common.

5. Duplex mellituria depends on the alternate prominence of one set of symptoms, including glycosuria.

Croftan⁸ found that the serum of the blood and lymph possesses no glycolytic power, nor do the red blood corpuscles. The sugar-destroying agent is considered a non-organized chemical body of indefinite origin and present in all organs and tissues.

The pancreas and adrenals are considered as regulators of sugar metabolism and not as generators of a sugar-destroying agent.

He thinks that the use of intravascular administration of zymose and the glycolytic ferment of yeast is promising.

Croftan's personal experience has been sufficiently satisfactory to warrant the administration of carbolic acid, in great dilution, or of salicylates in diabetes as the remedy *par excellence* for glycosuria.

Kolisch⁹ considers diabetes due primarily to an abnormal cleavage of the carbohydrate, induced by some toxic factor. This toxic factor is due in some way to the ingested albumin. He further believes that the number of food calories down to as low a figure as compatible with normal functioning.

Douglas¹⁰ considers diabetic coma an acid intoxication. The acid acts by diminishing the alkalescence of the blood and preventing the normal elimination of carbonic acid by the lungs, thus giving rise to the symptom of "air-hunger," described by Kussmaul.

The only rational line of treatment is the introduction into the system of an alkali. He advises sodium bicarbonate in large doses, either by mouth or, better still, intravenously, and he believes this line of treatment yields the best results.

The use of phenol, as suggested by Lépine, has not been very successful.

It thus becomes obvious that continued observations and investigations are necessary to establish the real causes and best mode of treatment of diabetes mellitus.

BIBLIOGRAPHY.

- ¹Semaine Medicale, 23, 47.
- ²Jour. Am. Med. Ass'n, February 6, 1904.
- ³Ibid., January 2, 1904.
- ⁴Ibid.
- ⁵Abstract Med News, January 30, 1904.
- ⁶Am. Med., February 20, 1904.
- ⁷Jour. Am. Med. Ass'n, February 6, 1904.
- ⁸Medicine, January, 1904.
- ⁹Wiener Klin. Woch., 48.
- ¹⁰British Med. Jour., December 26, 1903.

DIAGNOSIS OF DIABETES.

Although the diagnosis of this disease depends upon an examination particular exact in its findings when properly done, yet there are several reasons why mistakes are frequently made. Williamson (*Med. Chron.*, September, 1903) shows how often the disease is overlooked, because the prominent symptoms are not complained of and no urine examination is made. Loss of flesh and increasing weakness may be the only symptoms for months. Pruritus of vulva and eczema of external genitals may be the first indications of diabetes. Defects in vision, phthisis, carbuncles, or attacks of pains in the legs of an irregular type, accompanied by loss of knee-jerks, but no other tabetic symptoms, may lead to the suspicion that diabetes mellitus is the true cause. Coma may even supervene before a true diagnosis is made. On the other hand, small quantities of sugar in the urine may be held responsible for too many of the symptoms of which the patient complains, and it is necessary to be sure that we are not dealing with a simple, temporary glycosuria, or that the reaction is not due to some other reducing agent in the urine.

In the examination of urine for sugar in most cases Fehling's solution is the only test required. If no oxid of copper be thrown down on boiling, and if no greenish precipitate appears when the mixture cools, then sugar is absent in a clinical sense. If a precipitate is present and the other symptoms are present, the diagnosis of diabetes is justifiable. If, however, the precipitate is very slight and there are no symptoms present the question arises whether the reaction is due to sugar or some other reducing agent, such as lactose, pentose, uric acid in excess, glycuronic acid, alkapton, etc. The phenylhydrazin

test is the best to apply in these cases, and a simple modification of it may be done as follows :

A test-tube of ordinary size is filled for about half an inch with hydrochlorate of phenylhydrazin, then acetate of sodium, in powder, is added for another half an inch. The test-tube is half filled with urine and boiled for about two minutes. After standing half an hour the sediment at the bottom is examined under the microscope. If glucose is present bright sulphur yellow needle shaped crystals will be found. It is so sensitive in its results that crystals will be present when only 0.015 per cent of sugar is present. Glycuronic acid is practically the only other substance which will give these crystals.

If it is desirable to be absolutely sure that these tests are caused by glucose, the fermentation test may be tried and glycuronic acid will give no reaction in this case.—*Medical News*.

EDITORIAL COMMENT.

The Tuberculosis Exposition Number.

The February number of the *Maryland Medical Journal* is devoted to the subject of tuberculosis in commemoration of the Tuberculosis Exposition held in the city of Baltimore. It contains several interesting articles, one of which we take the liberty of reproducing as a Special Article. The war against tuberculosis is showing victories which were not foreseen a decade ago; the host of fighters is constantly becoming larger and the battles more vigorous. The prevalence of the disease is becoming lessened and the mortality has greatly decreased. It is no wonder, therefore, that a tuberculosis exposition can be held, the lesson of which shows splendid achievements of modern sanitation.

A Pneumonia Epidemic.

The winter of 1903-4 was especially severe through the Northern and North-Eastern States and this is given as the cause of the severity and extent of an epidemic of pneumonia that has produced a frightful mortality, especially in the large cities. On the other hand, there is evidence which tends to prove that a respiratory pneumococcus infec-

tion became widely disseminated early in the winter and hence the liability of more lung infections became enormously augmented. It may be truthfully stated that the various factors engaged in the dissemination and production of a pandemic are variable and their intricate workings very complex, so that their thorough elucidation is an insuperable task.

But the cry resounds above every other alarm that modern science has accomplished nothing in the cure or prevention of that greatest scourge—pneumonia. And, no doubt, the censure is just, for the present epidemic emphasizes the hollowness of all pretensions to the prophylactic and therapeutic control of this disease.

Is Appendicitis on the Increase?

A common question of the average intelligent layman is why appendicitis is such a common disease at present, when it was unknown twenty years ago. The impression generally prevails that its occurrence is more frequent, and certain writers have given this alleged increase as a stigma of physical degeneration. Villaret (*Deutsche Med. Woch.*) in studying the statistics of the German Army finds that while the diagnosis of typhlitis and appendicitis is 70 per cent more frequent than thirty years ago, the prevalence of liver diseases, peritonitis and chronic stomach diseases has decreased 64, 70 and 79 per cent respectively. From this he correctly argues that the disease was covered under these names and altogether must be less frequent at present than thirty years ago. All this only shows with what extreme care statistics must be examined in order to demonstrate a changed incidence or virulence of any disease.

The Nature of Still's Disease.

Still, in 1896, described a form of arthritis deformans which occurred in young children and which presented certain characteristics that seemed to separate this disease from other chronic joint affections. Briefly, these characteristics are as follows: Enlargement of the lymph nodes and the spleen, irregular fever and the absence of bony deposits. These characters argued for an infectious origin of the disease but the actual etiologic agent is obscure.

We feel that Edsall (*Arch. Ped.*, March, 1904) has done a real service by calling attention to the possible tuberculous origin of the disease. He reports a case in which tubercle bacilli were found in the enlarged glands of a patient who presented the typical clinical symptoms. A tuberculin reaction was also positive. He argues that it is extremely plausible that a wide systemic dissemination of a tubercle bacillus of low virulence may cause the disease, and aptly compares it to the general tuberculous lymphomatosis of Sternberg's disease.

This discovery will undoubtedly stimulate research into the etiology of these chronic bone diseases, an elucidation of which is urgently needed in view of the therapeutic hopelessness of most cases.

The Manufacture of Immune Sera to be Used for Diagnostic Purposes.

From several sources appears the suggestion that immune sera of animals may be utilized bacteriologically for the rapid identification of pathogenic micro-organisms. It is known that most bacteria are agglutinated by a high dilution of specific immune sera, and after the isolation of a germ a serum may be used to corroborate its specificity. Thus, on isolating Shiga's bacillus the most rapid means for identification would be to add a serum made immune to this bacillus and if it is promptly agglutinated its identity is fairly established. It is difficult at times to quickly identify the typhoid fever bacillus from the stools even when isolated, while its nature may be promptly established by using the agglutinating test.

It is more than probable that biological chemists will soon concern themselves with the manufacture of these specific immune sera which, when placed on the market, can be utilized for rapid bacteriological work.

The Master-Word in Medicine.

Dr. Osler gave an elegant address to the medical students of the University of Toronto, October 1, 1903 (*Bulletin Johns Hopkins Hospital*.) It is not so much that it contains new ideas, but it is the happy combination of ideas and beauty of rhetorical figures that characterizes this address. He takes his topic from the "Jungle Stories."

When Mowgli desired the help of Hathi and his sons in an act of vengeance he could only obtain it by sending them the master-word. Medicine has its master word that "brings to youth hope, to the middle-aged confidence, and to old age repose. This Master-word is Work."

He admits that a great many hard things may be said of the work habit. He quotes Robert Louis Stevenson, who declares that the industrious fellow sows hurry and reaps indigestion; he receives nervous derangement as the interest on his activity. But the master-word has influences which repay for the evil results and even these can be entirely avoided with intelligent care.

The address must be read to be appreciated. It will certainly serve as a model of introductory addresses for many years.

DIAGNOSTICS.

In Charge of W. L. JOHNSON, M.D.

Whooping Cough.

Two early signs, according to Steckel, are high specific gravity of the urine, 1020-1035, and the fact of the cough occurring at night with freedom from cough during day, and absence of physical signs.

Diagnostic Significance of Enlarged Spleen.

Crammer (*Med. Herald*) says to perform palpation an exact technic and considerable practice is necessary. The patient should be in the three-quarter position—left side elevated somewhat from the table, the patient resting on the back and right side. The left hand of the examiner should support the patient by being passed over the lower portion of the chest behind. The right hand should be placed flat on the epigastrium, so that a line through the tip of the index and middle fingers will be parallel with the costal border. If pressure is now made so that the tips of the fingers slip up under the costal border at the time having the patient take a deep breath, the spleen will be felt, if it is at all enlarged.

The normal spleen shows a dulness beginning at the ninth rib behind, at the border of the large muscles, extending to and including the eleventh rib. This border of dulness extends along the ribs about

three inches. Dulness greater than this is assumed to mean enlarged spleen.

From a diagnostic standpoint we differentiate acute and chronic spleen tumors. The acute are generally of moderate enlargement and soft. The chronic on the other hand may reach any size and in consistency are usually hard. We have two principal diseases in which the acute spleen tumor is of diagnostic significance—typhoid fever and septicemia.

The spleen is affected by incompensation of the heart almost as readily as is the liver, but only rarely is the swelling of the spleen large enough to be detected by abdominal examination.

The spleen of malaria is just between the acute and chronic splenic enlargements. It occurs as an acute tumor in recent cases, and persists as a chronic tumor in relapsing cases and cases which have been treated. It is a very safe that if the patient has no spleen tumors he has no chronic malaria.

Leukemia is the disease which is most frequently associated with an enlarged spleen, and in which the tumor reaches the largest size. The enlargement of the spleen in this disease is one which changes in size very rapidly under the varying conditions of the disease, and is almost a measure of the condition of the patient. The quick enlargements correspond to the period of increase in the intensity of the disease and the decrease in size corresponding to the period of improvement in the symptoms. In this condition the tumor attains its maximum size. The edge is blunt, the notches well marked, the surface smooth and elastic to the touch. In spite of the rarity of leukemia, a great portion of the massive enlargement of the spleen is due to this disease. Splenic anemia, so well described by Osler, has a tumor and symptoms which are identical with those of true leukemia, but without the blood changes. Although comparatively rare splenic anemia is met with sufficiently often, so that we must always have it in mind. Banti's disease also presents as one the cardinal symptoms an enlarged spleen, but the spleen has no more the character of that associated with cirrhosis of the liver than with that of leukemia.

In the discussion of Crammer's paper Bridges calls attention to enlargement of the spleen in Landry's paralysis. Mayhew warned against mistaking a prolapsed spleen for an enlarged spleen.

Renal Tuberculosis.

Welborn (*Cincinnati Lancet-Clinic*) says that patients coming to our notice may present many and varied symptoms, but the history of pain, associated with loss of weight, hectic temperature and urinary changes, should lead us to investigate the lumbar region.

There is no tumor in the early stages but the tip of the kidney may be sensitive to pressure. Much enlargement indicates a later stage and generally an involvement of the pelvis of the organ. It may also be due to the closing of an infected ureter.

Pain, which is often the initial symptom, is of a heavy aching character, as in lumbago. When it is not accompanied by other symptoms it may exist for months and even years as simply a backache. In such cases, however, the first lesion may have been something coincident or prior to the infection of the kidney. Pain is often misleading, and when it exists from other causes should not be confounded with that produced by the growth of tubercle on the capsule or any other part involved.

The passing of blood and other masses through the ureter may produce it. When pain is produced by caseous material in the pelvis it generally extends downward to the genitals and thigh. It does not involve the healthy side of the back nor chest.

In any given case the severity of the pain in the back and side depends upon the extent of ureteral involvement, or the amount of solid material passing through it.

Pain is most always relieved by a free flow of pus and urine.

Gastro-intestinal disturbances may exist, but with no characteristic symptoms.

When tubercle establishes itself in the kidney there is a reaction resulting in excessive secretion; there are, however, exceptions where the secretion is scant.

Urination is frequent, free and copious, especially at night. This irregular secretion may be taken for the polyuria of a nervous patient. When polyuria of diabetes or hysteria is eliminated, then tubercle should be suspected. Later on the urine may be scant, due to destruction of the kidney, or occlusion of a ureter. The specific gravity is generally low, from 1006-14, urine pale, often no sediment; when the latter is present it is usually composed of urinary epithelium, possibly a few renal cells, sometimes epithelium from the pelvis of the

kidney. Blood and pus cells are usually present, though not invariably. Blood indicates congestion of the kidney. A very small amount may indicate trauma by work or exercise. Large amounts indicate destruction of the renal substance and an advanced stage of the disease. Large amounts may occasionally appear with the initial manifestation. Most of the chronic cases have shown in my experience some blood. In two cases the urine seemed to be half blood. Pus is generally present and in varying quantities. It is present in simple and mixed infections, and when once present it continues to appear.

The diagnosis, as before mentioned, is not absolute until the tubercle bacillus is demonstrated. The clinical symptoms may be a complete picture of a typical case of renal tuberculosis, but without the presence of the disturber there must remain a doubt.

Cases of calculus with pyelitis may resemble tubercle very closely. The positive results after x-ray examination, and the absence of tubercle bacilli, are diagnostic points. Excessive pain indicates calculi.

Fever and Convulsions Due to Ascarides.

The fact that round worms may produce fever does not appear to be recognized by most writers, yet it is well known to French clinicians. In *La Policlinique*, Dr. Wittendorff has published four cases showing that serious symptoms may be produced by the *ascaris lumbricoides*. In the first case there was malaise, anorexia, rigor, headache, intense thirst and a temperature of 104.3° and delirium at night. Three doses of calomel, 1.5 grs., were given, and on the following day a mass of round worms of the size of the fist was passed and the symptoms disappeared. The second case had a temperature of 104° , and was given santonin and calomel, and after passing eleven ascarides was practically well in five days. The third case, in a child aged 5 years was like the preceding, but did not reach normal temperature until all the ascarides (24) were passed. The fourth case, a girl aged 11 years, seized with epileptiform convulsions. She fell down, lost consciousness and had tonic and clonic spasms of the arms. As she was constipated, castor oil was given. Some round worms were expelled, and the symptoms disappeared. It is suggested that these conditions of fever and convulsions are due to toxins absorbed from the worms. Experiments have been performed on animals by injecting fluids obtained from ascarides into different parts of the body. Sometimes no effects were observed; at other times death rapidly followed.

Dr. Wittendorff suggests that the parasites secrete toxins of variable virulence, which explains the fact that they may produce no symptoms whatever in some cases and severe ones in others.

Diagnosis of Hysteria.

Patrick (*Wisconsin Med. Jour.*) considers first, hysterical anesthesia. This rarely corresponds to any anatomical part of the nervous system—that is accurately to the distribution of any peripheral nerve or part thereof. The glove, sleeve, stocking anesthetics witness this.

Anesthesia, organic, whether of brain or cord or nerve, always has a graduated or gradually diminishing border.

Another thing is the rapid shifting of the hysterical anesthetic border. Hysterical hyperesthesia has also a shifting border and sharp definition.

THERAPEUTICS.

In Charge of PHILIP NEWCOMB, M.D.

Restriction Method of Cure in Drug Addiction.

Goldan (*Therapeutic Gazette*) makes the assertion that drug addiction, particularly morphin and cocain, may be cured by immediate or gradual restriction, according to the peculiarities of the case. The immediate restriction by the use of hyoscin hydrobromid he considers (see also *N. Y. Jour. Med.*, January 31, 1904) the most perfect method of meeting the conditions, but on account of the expense and time consumed is not applicable in all cases.

The gradual restriction or elimination plan can be used in cases occurring in every walk of life and consists, in the main, in attention to details with the hearty co-operation of the patient. Three principal conditions are to be considered, each of which is the result of the one preceeding and each one possesses a so called specific:

1. The gradual elimination of the drug by replacing it with others until both are entirely discontinued.
2. The treatment of toxemia by remedies which have peculiar properties as eliminatives of toxic effete elements; also the use of

stimulants of the emunctories and the employment of gastric lavage.

3. The treatment of neurasthenic conditions which exists to a greater or less degree in all habitual drug-takers.

More in detail, hyoscin hydrobromid is the true specific in drug addictions and should be administered in small doses as the other drug is withdrawn. It is an analgesic and hypnotic in action and only slightly narcotic, and replaces morphin and cocain with little if any of the deleterious properties of these drugs. While hyoscin is a powerful drug its intelligent use is not to be forced and a dosage in excess of $\frac{1}{100}$ grain is rarely necessary.

The gastric and renal functions are also to be stimulated, and this is to be accomplished by giving large amounts of water to flush the kidneys and by the employment of gastric lavage for the first week or two since, in the case of morphin especially, the poison is eliminated by the gastric mucosa and is liable to reabsorption in the absence of preventive measures.

For the relief of the neurasthenic condition the glycerophosphates are particularly useful either hypodermatically or by the mouth and are also said to be of value in the relief of the general weakness and muscular pains met with during the course of treatment, although for the latter various coal tar preparations or other non-narcotic analgesics may be given.

Epidural Injections.

Hallion demonstrated, in experiments upon animals that cocain, when injected into the spinal cavity produces anesthesia chiefly by its action upon the spinal nerve-roots and has but slight effect upon the cord itself, and, moreover, by the injection of cocain through the inferior opening of the sacral canal into the epidural space these nerve-roots could be anesthetised without disturbance of the cord itself.

The epidural space in man will accommodate 115 cc. of fluid without compression of the spinal cord, while more may be injected without causation of untoward symptoms and, according to Cathelin, this space is, by reason of its venous plexures, especially adapted for the absorption of medicated solutions. The latter had good success from epidural injections of artificial serum in cases of septicemia, and in cases of nocturnal enuresis in children remarkable results were obtained from the injection of physiological salt solution in amounts va-

rying from 5 to 40 grams, according to the severity of the case. Similar injections were proven beneficial in cases of urinary retention, impotence, spermatorrhea, frequent pollutions and the various forms of sexual neurasthenia.

Maclaire has applied this procedure to the treatment of Pott's disease in children with injections of iodoform in glycerin but, while well tolerated, the value of the method has not yet been determined.

Schachman reports the disappearance of epileptoid symptoms following injections for syphilitic myelitis.

For the induction of simple spinal anesthesia $\frac{1}{4}$ cc. of a 1 per cent cocain solution is employed. Bergonignon records the case of a tabetic young woman who suffered from vesical crises and a constant desire to urinate, in which the injection of 1 cc. of a 2 per cent solution resulted in a disappearance of vesical pain by the ninth day with also a lessening of severity in the girdle pain. Excellent results are also reported for epidural injections in lead colic.

The employment of a 1 per cent cocain solution, or the physiological salt solution in sciatica has met with variable results and more uniform reports are to be obtained from acute cases of neuralgia treated by the latter—10 to 15 cc. injected daily or every second day.

The technic of the procedure is described by Strauss (*Berliner Klin. Woch.*, August, 17, 1903) as follows: The patient being placed on his side with the thighs strongly flexed upon the abdomen, the physician runs his left forefinger down over the spines of the vertebræ until its tip falls into the triangular depression between the lowest sacral spine and the sacral cornua, which is readily found, except in very fat individuals, and lies about 1 to 3 cm. from the gluteal furrow and slightly above it. As soon as the needle has entered the opening its outer end is inclined about 20 degrees toward the coccyx and is pushed steadily inward. In children the opening is somewhat larger and it is also unnecessary to introduce the needle to so great a depth as in adults. The absence of edema at the site of injection furnishes the best indication that the procedure has been properly accomplished. Subjective symptoms at the time of injection were always lacking and in a few instances only were sensations of pressure noted later.

Cathelin's record of over 1,000 cases without an infection speaks well for the safety of the method when performed with proper aseptic precautions.

SOCIETY PROCEEDINGS.

MEDICAL SOCIETY OF CITY HOSPITAL ALUMNI.

*Meeting of January 21, 1904; Dr. Charles Shattinger,
President, in the Chair.*

Dr. GAYLER read a paper (see page 197, this issue) on

Retrouterine Hematocele.

DISCUSSION.

Dr. FRED. TAUSSIG said that this paper had given them information that they had long wanted, *i.e.*, the after-results of conservative treatment of hematocele. In the list of cases mentioned by Dr. Gayler, there was one in which the hematocele was attributable to a cause other than that of tubal pregnancy—the case was that of a virgin. But there was one thing that made the case less convincing, namely, the absence of a laparotomy. There must always be a doubt in our mind when we have not looked into the abdomen to verify the diagnosis. The apparent hematocele may have been a large prolapsed ovary; while very probable, the case did not impress him as having been an absolutely certain one. A case reported at the last Gynecological Congress by Prof. Treund was very similar, the case of a virgin with tuberculous disease. A laparotomy was performed and it was seen that the mass in the cul-de-sac was old clotted blood from the bleeding of an old tuberculous pyosalpinx.

Eleven recoveries out of thirteen, as Dr. Gayler reports, was certainly a very high percentage. Von Dittel reports ninety cases, of which, over 40 per cent were treated conservatively with good results. He does not state, however, how long his cases were followed up. Some, like Winternitz, have maintained that this conservative treatment involved a very long siege of illness and that some did not recover at all. In the case of working women who must earn their own living, operative treatment is preferable. Winternitz found that it was four

to six months before a woman could return to work under conservative treatment, and the slightly increased risk of operation in such a case would surely be justified. The speaker said that he had had occasion to operate on a case at the Female Hospital that illustrated the dangers of conservative treatment. He emptied the hematocele, but an infection of the sac took place. At the time of the operation the woman had a temperature of 104° . Four weeks later another incision had to be made. At that time it could have been designated as a pelvic abscess. The woman was at the hospital three months after the operation and on her departure was far from being in a fit state to go to work.

Dr. GEORGE GELLHORN regretted that he had heard only the last part of the paper, he gathered from the final statements of Dr. Gayler and from Dr. Taussig's remarks that the essayist indorsed the conservative method. In regard to the treatment of retrouterine hematocele and its underlying cause, the ectopic pregnancy, the speaker takes the stand of Werk, who said: Extrauterine pregnancy must be treated like a malignant growth viz, operated upon, whenever and in whatever stage we encounter it. Recent pathologic investigations are apt to confirm this position. Busse, some years ago, pointed out that the formation of hematocele may be explained, first, by the fact that the blood coming from the ruptured tubal sac is not pure but mixed with other substances and flows into the cul-de-sac in a more or less clotted condition; second, that the cul de-sac, for the same reasons that so frequently lead to ectopic gestation, has by previous inflammatory processes lost its normal faculty of absorption. Therefore the hematocele is either not absorbed at all and may become infected or necrotic, or is only partially absorbed, resulting in the formation of thick adhesions.

The peritoneum of the pelvic cavity and especially of the cul-de-sac, the speaker remembered to have read in a recent article, is in itself less able to absorb foreign substances than the peritoneum of the abdominal cavity proper.

While, thus, the cul-de-sac offers unfavorable conditions for complete absorption of a hematocele, the condition of the ectopic tube is an additional contraindication to non-operative treatment. It is generally known that even after the formation of a hematocele the hemorrhage from the ruptured sac may start again or that a new rupture may

take place. Both eventualities may immediately result in the death of the patient. Furthermore, Opitz has demonstrated that the folds of the mucous membrane of the ectopic tube grow together in such a way that a number of blind sacs are formed. This means that if we do not remove the diseased tube the ectopic gestation may recur, and in fact quite a number of such cases have been reported.

The results of conservative treatment as given by Dr. Gayler are highly interesting. However, only in a well directed clinic may such risk be taken. In daily practice, radical operation, viz, evacuation of the hematocele and extirpation of the diseased tube seems the more prudent course.

Dr. WALTER B. DORSETT knew of no subject in gynecology that was of such importance to the gynecologist as well as the general practitioner as extrauterine pregnancy and hematocele. He questioned whether these two subjects were to be considered one. While it is maintained by the great majority of writers on the subject that retro-uterine hematoceles are due to one cause, *i.e.*, tubal pregnancy, yet there are occasional cases reported in which there is no doubt of the woman not having been impregnated. He had heard a distinguished surgeon say that all clots of blood in the cul-de-sac of Douglas were due to extrauterine pregnancy and in many of the operations the fetus was never found, that it was not necessary to find the fetus in order to prove that it was a case of extrauterine pregnancy. The fact that there was a retrouterine hematocele was proof of extrauterine pregnancy.

Yet, such cases as the one reported by Dr. Gayler are positive evidence that it is possible to have hematocele without tubal pregnancy. These are probably due to the giving way of some of the veins from some cause or other. As to whether there are cases of retrouterine hematocele due to reversed menstruation is a question that has not been decided. It would seem that the examination of the contents of the sac would demonstrate that fact, for it would be easy to decide whether it were menstrual fluid or blood from a ruptured vein. As to the cases of extrauterine pregnancy, it would seem that but one conclusion could be arrived at, that there has been some interference with the tube. In most instances there is a history of sterility going on for several years in which the woman has suffered with tubular disease. Strictures may have occurred due to gonorrhoea or

pyosalpinx, or to operation. Another cause is the diverticulum that is sometimes found. These are congenital conditions. There must be sufficient depth to allow the impregnated ovum to fall into them and then close over them and cut it off so that the fetus develops in this diverticulum. Now, if it is between the layers of broad ligaments, for instance, it may grow, into the cellular tissue. Again it may occur so that the opening may give way near the distal end of the tube, the tube pressing the ovum into the abdominal cavity. As to operation, the speaker said he had something to say in the way of criticism, also as to conservative treatment if that meant nothing was to be done but keep the patient quiet. He was seriously opposed to opening these tubes through the vagina; he had done it to regret it. He saw one very interesting case in which the patient was curetted by the practitioner who was called to see the woman, whom he thought had had an abortion. He curetted the uterus, and next day he went back to see her and found she had, what appeared to be, peritonitis. He thought he had punctured the uterus and I was called to see the patient, who was *in extremis*. The speaker said that he intended to do a laparotomy but almost by accident he found the cul de-sac of Douglas pushed down and he made an incision. Out gushed a quantity of blood and, later, a fetus. An enormous quantity of blood was lost. He said that he had operated again through the vagina against his wish at the request of the patient's husband, who would not consent to a laparotomy. He had never had so bloody an operation in his life and the patient died on the fourth day as a result of the great loss of blood. In case of a rupture of a large blood vessel the only thing to do is to catch it and ligate it, and it is very much harder to go through the vagina with the hand and get a bleeding vessel and ligate it than it is to go in from above. There you come directly to the gestation sac and it is seized and clamped. From below you can not tell where the blood is coming from. If there has been a history of two or three ruptures the attachment of the fetus is a progressive one, it goes on until there is a large area of attachment, so that in getting in, you can not tell where the bleeding comes from and it is an active hemorrhage that you can not control.

He had recently been called to see a case in which there was a history of sterility and extrauterine pregnancy. She had a pulse of 140 and had lost so much blood that it seemed dangerous to move

her to the hospital, yet it was too dangerous to operate on her in the room, so that there was nothing to do but wait until the patient became strong enough to take her to the hospital. Nothing could be told by vaginal or bimanual examination. It was impossible to feel the ovaries and tubes. The abdomen was distended with free blood, not clotted blood, so that it was impossible to tell from which side it came. Most of these are cases of recent origin, *i.e.*, the case is seen soon after the rupture has taken place. He had operated upon about forty and could remember but one which had been recognized before there was a complete rupture, rupture of the mucosa, not the peritoneum. In this case he could feel a sausage-shaped mass, he operated and succeeded in tying it off. (A full description of this case can be found in the records of the Association of American Gynecologists.) It was removed without the loss of a drop of blood.

The cases that usually come under the observation of the general practitioner are those in which the patient is taken suddenly ill, faints, and a physician is called. He operated not long ago on a young woman, and the question of pregnancy was entirely foreign to her physician and himself. She was taken sick down town and lay at home for seven weeks without anything having been done other than massage. He operated for tumor and did not know what he was getting into until he found a fetus. There was a tumor without temperature and no suppuration, an inflammatory condition, apparently in which there is simply loss of blood, but there is always rapid pulse.

The speaker said that he did not understand Dr. Gellhorn's distinction between retrouterine hematocele and extrauterine pregnancy, and that was a question he was very much interested in.

Dr. GELLHORN replied that retrouterine hematocele is usually the consequence of extrauterine pregnancy. The condition of Fallopian tube and the pelvic peritoneum both warrant operation because the operative treatment, on the whole, will give better results than the non-operative.

Dr. H. S. CROSSEN asked Dr. Gayler what lesions persisted in the cases classed as not recovered—what conditions were found by examination after several months? Did the pelvic mass of blood and exudate remain or were the persisting symptoms due simply to resulting adhesions and fixation? How much disability was there in the "not recovered" cases? He asked also if the essayist had encountered

cases in which the treatment, begun as conservative, had to be changed to operative.

Dr. GAYLER replied that in the case of those that did not recover, there was resistance to the finger, pain and pressure. There was not a very large mass but quite a resistance to the finger and peritoneal adhesions. The patients were not kept from their work, but considered themselves invalids. Several of the cases were treated according to the conservative method for less than two weeks; then, if there was a distinct increase in the volume of the tumor, an operation was made.

Dr. CROSSEN said he felt indebted to Dr. Gayler for having given information of real value on a part of the subject about which there is a dearth of information—namely, on the conditions present after several months. There are innumerable reports of cases of hematocele embracing the period of onset and for a short time thereafter, but as to the ultimate results of the treatment, in a series of cases, he recalled no exact information other than that given by Dr. Gayler. And a great deal of just such information, obtained by observation of the cases for several months or a year, is needed to settle the question as to which is the best treatment for certain of these cases. In this particular series of non operated cases the ultimate results, which must be the final guide, were good in a large proportion of the cases—indicating that this treatment is justifiable, and probably preferable, in many cases of hematocele.

As to the general subject of tubal pregnancy and intra-abdominal hemorrhage, that is too extensive a subject for proper discussion this evening, and evidently it was not intended to be brought up by the essayist. Of course, when there is active hemorrhage into the peritoneal cavity there can be no question as to the necessity of operation nor as to the character of the operation. Such cases, of course, require abdominal section. But these are not cases of hematocele and, hence, really not under discussion.

A pelvic hematocele, as he understands that term, is an encapsulated collection of blood in the pelvis; there is no active bleeding and the affected area is shut off from the general peritoneal cavity by a roof of exudate. Such cases of tubal pregnancy are entirely different from the ones in which there is repeated slight bleeding from a mass not encapsulated.

He felt that the statement of Dr. Dorsett, that a case of tubal pregnancy should always be operated on by abdominal section, ought not to go uncriticized. It seemed to be based on the erroneous idea that all are cases of active hemorrhage, whereas the majority of cases, where a well-marked hematocele has formed, are distinctly not so. In hematocele the bleeding has ceased and the blood is encapsulated and shut in the pelvic cavity by a roof of exudate. Consequently, the difficulties of reaching a bleeding tube by the vaginal operation have no particular bearing on the subject.

In a case with active hemorrhage, or with the mass situated high, even without active hemorrhage, there is no indication for vaginal section; the operation should be abdominal section.

On the other hand, in a case which has resulted in a hematocele, evacuation of the blood-sac by vaginal section is, as a rule, all that is necessary. And Dr. Gayler had just presented substantial proof that, in some cases, at least, even this evacuation is not necessary; the blood and exudate being so far absorbed that the patients become practically well.

On account of the possibility of hemorrhage as the blood-sac is being evacuated *per vaginam*, the abdomen should be prepared so it can be opened at once if active hemorrhage should occur. The attempt to control active intraperitoneal hemorrhage through the vaginal wound is to the speaker's mind a perversion of the vaginal operation. If free bleeding occurs the case is no longer one of hematocele but of active hemorrhage, and immediate abdominal section is indicated. But in the ordinary hematocele the vaginal operation does all that is necessary (clears out the blood clots) with much less danger to the patient than abdominal section. The safety and practicability of the vaginal operation in these cases have been abundantly proven by the experience of many operators.

The speaker mentioned six cases of pelvic hematocele that had come under his care. In one the diagnosis was not confirmed by evacuation of the blood-clots, but still he felt quite certain of the nature of the trouble. The patient was brought to the hospital with a typical history of tubal abortion. There was quite a large tender mass behind the uterus. He made the diagnosis of probable tubal pregnancy with hematocele, but as the patient was doing well he decided to await developments before advising operation. No more bleeding

occurred. In about three weeks the mass diminished considerably in size and the tenderness had disappeared and the patient was allowed to go home.

In another case the symptoms and examination findings were much the same, but instead of getting better the pain and other disturbances increased. He insisted on operation (vaginal section) but the patient would not hear to any kind of an operation. The hematocele finally suppurated and ruptured into the vagina.

In still another case of retrouterine hematocele he waited. The patient was a physician's wife and her husband was somewhat doubtful as to the diagnosis so they waited about ten days. The patient was better for three or four days then the retrouterine mass gradually became larger and more tender. He then did posterior vaginal section and cleared out the blood-clots.

In three other cases he did vaginal section as soon as the diagnosis was established. In fact, in one case he did the operation before the diagnosis was established, there being a question before operation as to whether the mass was a hematocele or a purely inflammatory mass.

These cases all recovered promptly and no particular hemorrhage was encountered during the operation or afterwards. He regarded these as cases of hematocele due to early extrauterine pregnancy.

Dr. DORSETT asked Dr. Crossen if he had found the fetus in these hematoceles. They might have been some other cause than extrauterine pregnancy. He always felt it necessary to find the fetus or chorionic villi before he decided that it was an undoubted case of extrauterine pregnancy.

Dr. CROSSEN asked Dr. Dorsett if he meant to infer that these were not cases of extrauterine pregnancy.

Dr. DORSETT replied that these cases all got well; his had all died but one.

Dr. CROSSEN said he thought Dr. Dorsett would agree with him that about 95 per cent of all cases of retrouterine hematocele are due to extrauterine pregnancy. For this reason in cases of hematocele it is justifiable to regard it as extrauterine pregnancy unless there are symptoms or circumstances indicating decidedly that it is something else. It is recognized that in these early cases the fetus is absorbed. It is nearly always possible to find traces of chorionic villi, but it is gener-

ally true that the fetus has been absorbed. For that reason he felt justified in pronouncing these cases of early extrauterine pregnancy and so far he had heard nothing that would tend to disprove that diagnosis.

As to the stricture placed upon vaginal section by Dr. Dorsett, it was his conviction that to subject a patient to abdominal section because she has hematocele is to put the patient in great danger without sufficient cause.

If he had the time at his disposal, he said he would like to discuss the question of active hemorrhage in the abdomen. He had had some interesting experiences with that rather familiar class of cases of extrauterine pregnancy. But there was not time, neither did that really come within the scope of the evening's subject. There was one point, however, that he thought could, with propriety, be touched upon in connection with the subject of hematocele, namely, suspected hematocele. There are certain cases of tubal pregnancy in which it is a question whether a well-marked hematocele has formed or not. If the tube has discharged its contents with resulting hematocele, vaginal section and evacuation of the blood-sac is the operation of choice. If, on the other hand, the tube contents have not been discharged or have been only partially discharged and with only frail adhesions about, abdominal section is the only safe operation. Usually from the symptoms and the examination findings, especially the location of the mass, the differential diagnosis may be made. But occasionally not, and in these doubtful cases abdominal section is the preferable operation. If objection is made to abdominal section on account of the greater danger and the possibility of it not being necessary, exploration may be made by vaginal section to determine the exact condition by direct palpation and the absolute necessity of abdominal section before resorting to it. He had had one such case only a few weeks ago. It was apparently very much like the one mentioned by Dr. Dorsett, where the husband objected to abdominal section. The mass, the size of a small orange, was not low in the cul-de-sac, neither was it very high. It was a question whether it was simply a hematocele that could be safely evacuated by vaginal section, or still active trouble in the tube with the probability of dangerous hemorrhage as soon as frail adhesions were broken. The husband strongly objected to abdominal section. The speaker stated to the

husband that he would open by vaginal section and if he found a simple hematocele would evacuate it, but if, on exploring the pelvis through the vaginal opening, he found the second condition mentioned he would not attempt to handle it through the vagina but must be allowed to remove the dangerous mass by abdominal section. The possible conditions were explained carefully to the husband and then the speaker stated that he would have nothing to do with the case unless he were given permission to open the abdomen if he found it necessary. This permission was granted. He opened the posterior cul-de-sac and found the condition not one of hematocele, as he understands that term. In opening the cul de-sac he opened directly into the free peritoneal cavity. To the left and extending rather low, but not occluding the cul-de-sac, was the mass composed of enlarged tube, ovary and exudate. The condition was one calling for abdominal section. He was careful, in the exploration, not to break the frail adhesions surrounding the mass, feeling that such action might start an uncontrollable hemorrhage. As soon as satisfied of the condition he at once opened the abdomen and removed the pregnant tube in the usual way. The patient recovered without incident, whereas had he attempted to treat this mass as he would an ordinary tubal pregnancy hematocele (scooping out of blood clots through the vaginal opening) there would have been great probability of fatal hemorrhage.

A close study of the cases of tubal pregnancy will show that they differ greatly, and the best operation for each case is the operation that will, in that particular case, accomplish all that is necessary with the least danger to the patient.

Dr. DRECHSLER stated that his first case of hematocele was about 1902. He did not know the nature of the case until he saw her at the hospital. The patient was 26 years old, single, and said that while she was going to the railroad station at her home in Illinois she had felt something break in the lower abdomen. She was sent to St. Louis a distance of 36 miles on a stretcher. She was so weak upon arrival at the hospital that examination was deferred until the second day. She was dieted and given stimulants. One cause for her excessive weakness was that she had been given nothing but Liebig's beef tea for six weeks by her physicians. Neither of the physicians who had seen her had made a vaginal or rectal examination. There was a large,

well-rounded mass in the posterior cul-de sac which he believed to be a pelvic hematocele. He did not believe it was due to pregnancy. She was given stimulants for three weeks and carefully watched. There seemed to be a little improvement in the dimensions of this mass. The vaginal membrane was more mobile over this mass. The mass was so large that it seemed impossible that absorption could take place. An incision was therefore made in the posterior cul-de-sac and large quantities of blood removed. After three weeks the patient returned to her home. She is not exactly well to day, for she still has extreme tenderness over the site of the incision. Another case he saw only a short time ago. The patient, who was 44 years old, was standing between two seats on a car, and in a collision, was thrown forward violently. Upon examination a hematocele was found. She was given rest and vaginal douches and recovered. He mentioned this case because it was caused by trauma. In the first case he not believe there was any question of pregnancy. Before opening the hematocele the temperature was 101.2° and he was afraid to delay longer.

Dr. TAUSSIG asked Dr. Gayler to state the exact nature of the conservative treatment that was employed in the eleven cases that recovered and how long this conservative treatment was kept up on the average.

Dr. DORSETT said that there was one point he wished to lay special stress upon and that was that in most cases the physician is called in immediately after the rupture. When a surgeon is called to a case in which there is a loss of blood, the first thing to do, of course, is to stop the bleeding. This being the case, to get at the bleeding vessel is the indication, and he would naturally go through the abdomen because the tubes, being up on the side, are more easily reached than by the vagina. If the patient has bled for several days, the same thing is indicated, *i.e.*, securing the bleeding vessel. In going through the cul-de-sac of Douglas one can not tell where the attachments are. A large area may be involved in the attachment. He mentioned one case where a woman had had four ruptures which were unrecognized by one of the best surgeons in the city. She was accused of hysteria. The attachments were so extensive that if he had attempted to empty this by the vagina the patient would have died the table. There were attachments to the omentum as high as the umbilicus. The first thing

he got into was fresh blood. As soon as had secured the bleeding vessel he took out large quantities of blood clot. This had gone on for four months. She was in the hospital for three weeks before he dared operate on her. Most of the hematoceles were in the cul de sac of Douglas. The case operated on through the vagina died from hemorrhage and he thought that was one thing the surgeon should have pretty clear ideas about: the advisability of going through the abdomen or cul de-sac of Douglas. As to the conservative, or what may be termed let-alone treatment, this should never be countenanced except in extreme cases. That such cases do arise now and then in ones practice that should be treated on the conservative plan there can be no question—but they are few in number.

Dr. GELLHORN thought that the operation would differ according to the duration of pregnancy. If rupture occurs after five months of pregnancy, abdominal section is indicated; if earlier than that, especially during the first three months, there would seem to be no objection to operation through the vagina, unless there are insurmountable difficulties encountered in bringing the tubal sac in view. It has been done very frequently and in the two cases where the speaker has assisted he was surprised at the ease with which the operation was performed. The vaginal operation can not be objected to on general principles.

Dr. GAYLER, in closing, said that he had found the remarks very instructive. He had been under the impression that the hematocele was a mass of encapsulated blood. According to Dr. Gellhorn this was not necessarily true. In his paper the speaker had meant to limit himself to adhesions in which there was no free bleeding. He thought they would all agree with Dr. Dorsett that when there is active bleeding the thing to do is to enter and tie off the vessel. There are three kinds of cases to be considered.

1. Those in which the blood escapes into the cul-de-sac, and adhesions then form.
2. The escape of blood into a sac already formed by previous adhesions, and,
- 3 The oozing from the end of the tube, the blood accumulating, and fresh oozing expanding the mass of blood, all bleeding taking place in the middle of the mass.

The speaker remarked here that he had seen but little of gonor-

rhea in Tübingen. Most of the women saw but little of the evils of large cities. He was in the Female Hospital most of the time and saw not one case of gonorrhea. He considered this noteworthy in view of Dr. Dorsett's statement as to the cause of strictures. As to the conservative treatment, the patients were put to bed, given a light diet, an enema when needed, no purgatives and no massage, and warmth applied. After two or three weeks they all wanted to go home, and it was necessary to exercise a large amount of ingenuity to keep them in the klinik a little longer. The average length of time of conservative treatment was about twenty days. The patient should be given the benefit of a two or three weeks' trial of conservative treatment, and if the tumor does not increase in size the speaker thought the patient was better off without operation. As to the vaginal operation, they had but three of them, hardly enough to base any definite conclusions upon. The results were very good in these three cases. He believed it had been necessary to take out one of the tubes in one of the vaginal operations. The case mentioned by Dr. Dorsett of a young woman with bleeding in the pelvis, who had been massaged for a long time, was not a fair test. He thought if the abdomen had been left alone that the hematocele would possibly have been absorbed. In regard to the case of the virgin whom he had spoken of, they had felt it was a great misfortune that she would not let them open her abdomen. They may have been jumping at conclusions in thinking it was due to reversed menstrual flow but he did believe positively that it was not due to extrauterine pregnancy. Replying to a question by Dr. Drechsler he said he knew of but two cases caused by trauma, one caused by the lifting of a heavy weight, the other due to a violent coition. Being asked in what instances he would advise conservative treatment and in what cases operation, the speaker thought it very hard to make an absolute rule, but very large tumors, of course, had been operated upon, the smaller ones treated conservatively. In some of those treated conservatively the tumor felt as large as two fists.

REPORTS ON PROGRESS.

MEDICINE.

In Charge of EDMUND A. BABLER, M.D.

Gastroptosis.

Steele and Francine (*Univ. of Penn. Bul.*) have observed more than 100 cases of gastroptosis and found that symptoms may be entirely wanting. They conclude that certain cases are relieved so promptly by external support, without other treatment beyond dietetic, that the downward displacement of the pylorus must be regarded as the principal factor in the causation of the symptom-complex.

The cases of this character showed diminution of HCl; absence of organic disease, dilatation or any impairment of motility. The prominent symptoms were gastric fermentation, frontal headache and sensations of dragging and lack of support in the abdomen. The nature of external mechanical support as a means of treatment is shown by the fact that all primary and uncomplicated cases recover completely under its use. This external support does not permanently restore the stomach to its normal position but it does enable the organ to successfully perform its function in spite of a certain degree of displacement. These changes are probably compensatory. When the gastroptosis is a complication, the treatment must be directed to the primary condition since these cases are not benefited until the primary condition is relieved.

Cancer of the Stomach.

Arneill, (*Am. Med.*) submits the findings obtained by test meals in cases of this disease and also in cases of pernicious anemia. He found that in all of the patients with pernicious anemia there was a complete absence of free hydrochloric acid and likewise a practical absence of loosely combined hydrochloric acid and lactic acid—in fact there was an achylia gastrica. In practically all of the cases of cancer of the stomach there were evidences of stagnation, fermentation, long bacilli, sarcinæ and yeast.

After citing operations and their result he concludes that the positive diagnosis of the case in its early stages is absolutely impossible. He advises exploratory celiotomy when HCl is absent and pernicious anemia can be excluded providing the patient continues to get worse.

Splenic Anemia.

Lichty (*Jour. Am Med. Ass.*) reports a case and reviews the literature of 34 cases found. The symptoms are mainly anemia with low color index, and very commonly leucopenia; splenic enlargement, often to the most marked degree; and a tendency to serious, and sometimes even fatal, hemorrhage. Liver may be enlarged, feet may swell, cardiac, respiratory, renal and gastro-intestinal disturbances may be present. Duration of the disease is from a few weeks to 15 years or more. Barr thinks that the disease is secondary to vasomotor paresis of the abdominal circulation caused by some in the visceral sympathetic ganglia.

Treatment is very unsatisfactory—both medical and surgical. The following data is presented: Males 26, females 8; average age 36 years; history of malaria in 7; of syphilis in 2; melanoderma in 17; well marked splenic enlargement is most pronounced feature in every case; hemorrhage occurred in 24, sources variable; anemia was very striking in all cases; excess of leucocytes in only 2; hemoglobin averaged 47 per cent; average number of red corpuscles 3,293,000; of white corpuscles 4,381; hepatic enlargement in 16; small in 1; hemic numerous in 11.

Of 25 cases treated medically, 5 recovered, 12 improved and 1 not improved. Seven died—hemorrhage being most common cause of death. Of 8 cases operated upon, 5 recovered and died.

Rubio's Gluteal Sign of Hip Disease.

Acovedo found that when percussion is applied with the fingers over the surface corresponding to the gluteus maximus, the gluteus and posterior muscles twitch as with an epileptoid tremor.

The reflex is constant in case of incipient inflammation in or around the joint but is never observed in hysteric or purely neuralgic affection. The sign is most pronounced when percussion is applied at the point where the nerves pass through the sciatic notch, also along the course of the greater sciatic nerve, called Rubio's sign as tribute to the memory of the late Prof. Rubio.

Organ Treatment of Nephritis.

Renaut (*Bulletin de l'Academe de Medicine*) has established the existence what he terms grains of segration which accumulate in the supraneuclear region of each epithelial cell in the the convoluted tubules. These are accepted as the preproducts of the secretory activity and the writer regards this preproduct as a sort of antitoxin which is not destroyed or modified in passing through the digestive tract; he believes it possible to supply the system with this preproduct or antitoxin in cases in which its production is interferred with by morbid renal changes.

His remedy is prepared by chopping two or three fresh kidneys of pigs, rinsing thoroughly in running water to remove all the urine, then grind the chopped organs and mix thoroughly with 450 cc. of a 7 per cent 1.000 salt solution. Place dish containing the above, on ice for four hours, then decant and it is ready to serve. By adding a tablespoonful of tepid julienne soup to a cup of this maceration all repugnance is overcome.

This maceration is prepared fresh every day for ten days, then suspended for five days to avoid the slight symptoms of subintoxication that follows its constant use.

Renaut tabulates the results obtained in three cases of typical nephritis, and apparently confirm his assertions that this method of treatment has a rapid diuretic effect, and is one of the most active and effective yet known.

Sufficient prolongation of the treatment restores urination to normal without having the slightest unfavorable action upon the diseased kidney.

The remedy is very powerful and similar in action to that of therapeutic serum.

He urges its early use in all cases of nephritis, as an adjuvant to the usual measures, when the latter are not accomplishing all that could be desired.

[The original monogram is worthy of careful consideration]

Splashing Sound.

Goekel (*Archiv. f. Verdaumeg Krankheiten*) considers that when a splashing sound can be detected it should suggest the possibility of stagnation insufficiency of a benign or malignant character in the gastrointestinal tract. The typical sound resembles that produced by shaking a bottle or bladder partially filled with water and partially with air.

It is usually detected by succussion, palpatory-percussion or change of posture—it may be necessary to auscultate the abdomen with the stethoscope to reveal it.

Whenever it can be detected it should induce further and repeated examinations, the stomach being empty.

He tabulates 7 cases of gastric carcinoma in what the diagnosis was suggested by a splashing sound at the first examination, (stomach was empty), and only audible by means of stethoscope. All other symptoms of carcinoma were absent at this time but developed in due course of time. Goekel insists upon complete and repeated examination—first for its detection, then for the presence of other conditions. His experience convinces him the splashing sound is a valuable sign and should receive the attention and consideration due it.

PATHOLOGY AND BACTERIOLOGY.

In Charge of CARL FISCH, M.D.

A Contribution to the Casulstry of Placental and Congenital Tuberculosis.

Aldred Scott Warthin and David Murray Cowie (*Jour. Infectious Diseases*, Vol I, No. 1).

The main features of the case described are: Woman in the 5th month of pregnancy with chronic tuberculosis of the kidney and general miliary tuberculosis; abortion; death. Tuberculous thrombosis of placental sinuses and intervillous spaces; tuberculosis of placenta; tuberculous thrombi in fetal blood; presence of tubercle bacilli in fetal circulation without histological changes.

The pathologic changes found here agree, on the whole, with those found in the small number of other cases reported, they show that the first step to placental tuberculosis consists in the formation of intervillous thrombi with giant cells and caseation. It is peculiar that the syncytium can remain perfectly intact in contact with these tuberculous thrombi and even cover their surface with fresh proliferations. Only where the thrombus surrounds the villus altogether the resistance of the latter yields, syncytium and stroma are destroyed; the chorionic stroma also undergoes tuberculous proliferation. Placental tuberculosis finds its condition of existence in tuberculous thrombosis. The number of tubercle bacilli found in the sinuses and spaces

was enormous, while they could be found nowhere else in the circulation of the mother. The slow current at these places, together with the normally present fibrin deposits must have led to their accumulation. The author suggests that if so many bacilli are found here in miliary tuberculosis it might not be unlikely that even in chronic tuberculosis, although in a lower proportion, the same phenomenon would more frequently occur than is suspected.

The stroma of the villi has not as great a resistance against the bacilli as the syncytium; in some spaces in villi, with perfectly intact syncytium, tubercle bacilli were found. In places, where the thrombi had denuded their surface the stroma had undergone epithelioid-cell and giant-cell formations. Otherwise, neither in the villi nor in the fetal organs tuberculous changes were observed, except a few small thrombi in the intralobular veins of the liver. Tubercle bacilli were present in them as well as free in the vessels. It appears remarkable that so many bacilli could be present without causing other changes.

The authors suggest these possibilities: First, that the bacilli only recently had passed the placenta, or second, that the bacilli had lost their virulence, or, finally, that an absolute or relative immunity of the fetal tissues existed. The decrease of virulence is seemingly thrown out by the successful inoculation of guinea pigs with the liver of the tetus, while it is believed that for the immunity of the fetus this and some other observations can be made suggestive. In view of the importance of the subject dealt with, the conclusions of the authors may be given:

1. In case of the entrance of the tubercle bacilli (miliary tuberculosis or chronic tuberculosis) or other bacteria into the maternal blood during pregnancy, the conditions of the circulation in the placental and uterine sinuses favor their collection there.

2. If the bacilli are capable of multiplication, the first step in the development of parental tuberculosis seems to be an agglutination and coagulation thrombosis of the maternal blood in the intervillous spaces. The formation of such thrombi around the multiplying bacilli may to some degree be protective in inhibiting their growth.

3. The syncytium appears to possess a certain degree of resistance against the bacilli.

4. The question of passage of tubercle bacilli through an apparently normal syncytium must be left open.

5. In the case of the destruction of the syncytium the stroma of the villus may be involved in a tuberculous process directly or by an extension from a tuberculous thrombus. The syncytium of the normal placenta is not intact throughout, processes of decay and growth occurring in the villi from the earliest stages of pregnancy. In the later months the placenta is a senile organ with necrotic and atrophic syncytium in many places; through such places a passage of microbes may be possible, although in most cases the exposed areas are perhaps protected by fibrin deposits.

6. Tubercle bacilli may be found free in the reticular spaces and blood vessels of the chorionic villi without the occurrence of histological changes of tuberculosis.

7. The fetal blood may contain great numbers of tubercle bacilli without other changes than small agglutination thrombi being present in the fetus. Inoculation shows these bacilli to retain their virulence. From this it may be assumed that the fetal tissues are relatively immune to the action of the tubercle bacillus.

8. Granting such an immunity, it is possible that living tubercle bacilli may be present in the fetus and new-born child without existing histological changes; and, developing some time after birth, may then give rise to characteristic tuberculous lesions. A true fetal congenital tuberculosis is, therefore, both possible and probable, but additional investigations are necessary to settle the question of the frequency of such an event. The commonly-accepted data regarding congenital tuberculosis are probably extreme. It is not at all unlikely that it is of much more common occurrence than is generally supposed.

The Structure and the Granulations of the Cells of Acute and Chronic Pus in Man.

(*Virchow's Archiv*, Vol. 172, Heft 2.)

To clear up certain much discussed points the author studied the morphology of pus corpuscles under varying conditions, in Arnold's laboratory. Like others, he comes to the conclusion that mainly the white elements of the vessels, leaving the vessels, contribute to the formation of pus and that among them the highest percentage is furnished by the polymorphonuclear and multinuclear elements. In the pus of chronic tuberculous processes more lymphocytes are found than in acute affections. Eosinophilous cells are most frequently found in acute suppurations. It is peculiar that their granulations frequently

become basophilous, a phenomenon most likely to be interpreted as a degenerative change. Bacteria are never found in them, the only phagocytic elements are the neutrophilous cells(?) Degenerative processes represent themselves as caryolysis and caryorrhexis. The author differs from others in the opinion that the multinuclearity of polynuclear cells is not an evidence of retrogressive changes.

In half of the cases of acute and chronic pus cells were found with basophilous granula. They are of about the same size as the polymorphonuclear cells, possess an oval or round nucleus and a narrow zone of cytoplasm around it with finer and coarser granulations. They are believed to be somewhat changed mast cells, while the pictures given of them suggest more, that they are merely lymphocytes, of which we now know that under certain conditions their protoplasm can show a granular differentiation.

Experimental Study of Thyrotoxic Serum.

Milton M. Portis (*Jour. Infectious Diseases*, Vol. I, No. 1). The result of experiments made with sera prepared by immunizing goats with the thyroid glands of dogs are as follows:

The serum of goats injected with suspensions of the thyroid gland or with the thyroid colloid matter of dogs acquires new and striking properties. Injected into dogs, it causes symptoms, among which are prominent depression, convulsions, vomiting, rapid breathing, hemoglobinuria and early death in some cases, and in other animals that lived longer, there were present also some fever, lachrymation, loss of weight and progressive weakness. It can not be claimed, that there has been produced the exact picture presented by thyroidectomized dogs. These clinical manifestations are associated with removal of colloid matter from the acini of the thyroid, desquamation and disintegration of the epithelial cells of the acini, followed in time by restorative processes and the growth of papillary proliferations. The parathyroid bodies and the hypophysis show no changes. The liver, spleen and kidneys present marked degenerative and pigmentary changes, which in a large measure may be the result of the hemolytic property of the serum injected, although it is probable, that the thyrotoxic serum contains cytotoxins for the cells of the liver and kidneys, also. *In vitro*, the thyrotoxic serum is more destructive and agglutinating for thyroid cells of the dog than normal goat serum. The toxic serum is markedly agglutinating and hemolytic for the dog corpuscles,

even when obtained from goats injected with bloodless thyroid material and with colloid matter; an observation of great importance as regards the problem of community of receptors in various cells

If it were possible to remove from the thyrotoxic serum the hemolytic as well as other direct or indirect and cytotoxic components, it would seem to be warranted to expect that still stronger evidence could be obtained of a specific thyrotoxin. It may be, too, that the use of other animals might give less complicated results.

SURGERY.

In Charge of M. G. GORIN, M.D.

The Aponeuroses the Supporting Structures of the Abdominal Wall.

Following out the trend of treatment suggested by the Mayo overlapping method for the cure of Umbilical Hernia Winslow (*Annals of Surgery*) after reviewing the structure and functions of the abdominal aponeuroses recommends the accurate approximation and overlapping of these structures in all abdominal incisions, in order to prevent the occurrence of post-operative hernia. The earlier methods of closure consisted of through and through sutures, resulting frequently in faulty approximation of the tissues and broad scar formation with a high percentage of post operative herniæ. Winter's statistics give 33.3 per cent of hernia following 1000 laparotomies performed in various Berlin hospitals. Following this method came the suturing of separate layers, joining like tissues with separate rows of sutures. This made a linear scar but resulted in a point of weak resistance from the fact that all the sutures were in one vertical line. McBurney's "gridiron" incision is practically anatomically perfect, and the results leave nothing to be desired. Such an incision requires more skill and time than the ordinary one. The wonderful results of Championnier and Halstead in inguinal, and Mayo in umbilical hernia, all depend for their success on the same basic principle, overlapping of the aponeuroses. Taking into consideration that the aponeurotic coverings are the chief supporting structures of the abdominal wall, and that in order to radically cure various forms of hernia it has been found necessary to accurately approximate and overlap these structures, it would certainly seem a rational proceeding to close abdominal in-

cisions by this method in order to prevent the possibility of hernia occurring. In median line incision the following technic is employed, the integument and subcutaneous tissue are incised down to the aponeurosis, which is bared for an inch and a half on each side of the incision. The aponeurosis is next incised in the same line as skin incision and by blunt dissection, a flap is raised from the underlying muscle; one flap is freed for an inch and the other for half-inch from the cut margin. The remainder of the incision is completed in the usual manner. To close the wound the peritoneum coapted by continuous catgut sutures; the muscle by interrupted sutures. Then the cut edge of the half inch aponeurotic flap is stitched to the base of the opposite flap by interrupted or mattress sutures. The free margin of the opposing flap is stitched down, after overlapping the first flap, by continuous or interrupted sutures.

Bronchoscopy.

Schwytzer (*Annals of Surgery*) reports a case in which a piece of bone was removed from the lower right lobe of the lung through a bronchoscope. The history of the case is as follows:

Five weeks ago a woman, aged 48 years, got a piece of bone into the windpipe during a coughing spell while eating. Cough and expectoration have continued ever since. For three days after the case was referred to me I advised the use of inhalations of tincture compound benzoin 50, creosote and turpentine, *aa* 25. At the end of this time on account of severe coughing spells and slight fever it was decided to operate. A bronchoscopic examination was attempted through the mouth and larynx after applying a 20 per cent solution of cocain in 1-10,000 adrenalin. Severe choking spells rendered these attempts unsuccessful. This was attributed to the presence of a large goitre, and a strumectomy was decided upon as a preliminary operation. This done on the following day, parts of the two lobes being removed and the trachea laid bare for a distance of four centimeters. The wound was dressed with an iodoform strip and allowed to heal to a small opening. Two weeks later the trachea was opened three centimeters above the manubrium sterni for a distance of two centimeters. This was done without even local anesthesia, but on opening the trachea a small quantity of the cocain-adrenalin solution was used. The operation consumed a little over two hours, a great deal of time being lost through allowing the patient to rest, as no

anesthetic was employed at any time. The tube, fifteen centimeters in length and of the calibre of a 24 bougie, was introduced and the bifurcation and the two main bronchi were seen to be free. The right bronchus was first explored and then the left one entered by the tube. The secondary bronchi could be plainly seen dividing off, but no foreign body detected. The lively pulsation of the surrounding large vessels was greatly in evidence and rendered difficult the employment of instruments in the left bronchus, far down in the right, however, this was not noticeable to any extent. The respiratory motion is more noticed the nearer the periphery is reached, but respiration was at no time interfered with on account of the presence of the tube. A second, more thorough search of the right side revealed a small triangular piece of bone some three centimeters below the end of the end of the bronchoscope, which was six inches below the tracheal opening. After a great deal of deal of maneuvering a grasp was finally obtained on the fragment of bone, but it was found too large to be brought through the tube, so the forceps and tube were removed together, with the bone retained in the forceps' grasp. The patient stood the ordeal well, and made a good recovery. It is interesting to note that she had referred all symptoms prior to examination to the left lung instead of the right.

Perforation of the Bladder by an Appendiceal Abscess.

This rather unusual method of termination of an appendiceal abscess is reported by Stone (*Annals of Surgery*) who has also collected literature of thirty similar cases. Mrs. T., aged 50 years had the usual symptoms of appendicitis in August and a non-operative course being adopted passed several weeks of illness, during which time an abscess developed in the right iliac fossa, but without peritonitis or unusual bowel symptoms. At the end of three weeks, after increasing symptoms of irritable bladder, she passed a pint of pus per urethra, during a period of 48 hours. Her condition rapidly improved thereafter and she was brought to the writer in October for examination, which showed a mass in the right iliac fossa. Operation was performed and the appendix and omentum were found adherent to the right cornua of the bladder, the distal end of the appendix being open. The bladder was filled with methylene blue solution and found to be intact; spontaneous healing having occurred.

BIOGRAPHICAL SKETCHES.

DR. CHARLES ALEXANDER POPE.

Dr. Pope was especially distinguished as a bold and successful surgeon; and for many years was Professor of Surgery in the St. Louis Medical College.

Dr. Charles Alexander Pope was born in Huntsville, Alabama, March 15, 1818. He died in the city of Paris, July 5, 1870. He received his general education in the University of Alabama and his medical education at the Cincinnati Medical College and the University of Pennsylvania. He graduated in 1839. Immediately after graduation he went to Paris and studied there two years, and also visited other medical schools of Europe. From this it will be seen that he was one of the most thoroughly educated physicians of the West.

His successful medical career commenced in St. Louis in 1842, and soon he outranked all others especially in surgery, while his gentlemanly manners and high moral qualities soon won for him a high place in social life.

He held successively the chairs of Anatomy and Surgery in the St. Louis Medical College, and in 1854 was President of the American Medical Association.

In 1846, he married Miss Caroline, the daughter of Col. John O'Fallon.

The last few years of his life were spent in travels through Europe, where he was accompanied by his family.

DR. CHARLES W. STEVENS.

Dr. Stevens was one of the first psychiatrists of St. Louis, although he held the Chair of Surgical Anatomy in the St. Louis Medical College.

Dr. Charles W. Stevens was born in Pompey, N. Y., June 16, 1817, and was educated as a Civil Engineer. Coming West he concluded that a physicians career would be more serviceable, and began to study medicine under the preceptorship of Dr. Rogers. He grad-

uated in medicine at the Medical Department of Kemper College in 1842, and began the practice of medicine in St. Louis.

After serving as Demonstrator of Anatomy in Kemper College, and latter in the St. Louis Medical College, he was, in 1855, elected to the Chair of Anatomy in the latter school which he held for thirteen years.

As psychiatry was especially interesting to him he took the position of Superintendent of the St. Louis County Insane Asylum which he held for several years.

In 1879, he served as President of the St. Louis Medical Society.

He died in this city February 17, 1890.

Peritoneal Saline Infusions in Abdominal Operations.

Clark and Norris (*Jour. Am. Med. Ass'n.*) report the results of their combined study of the effect of post-operative saline infusions in abdominal operations, as well as the results of abdominal saline infusions in artificial infection of animals with virulent micro-organisms introduced into the abdominal cavity. In experimental infections the lethality of the dose may be estimated from the degree of leukocytosis which is set up upon the administration. Thus an excessive leukocytosis followed by a rapid decrease, with accompanying grave symptoms would indicate that the phagocytes were overwhelmed and a fatal result expected. A bouillon culture of staphylococcus aureus was injected into the abdominal cavities of twenty-two rabbits, and immediately followed by the injection of 100 cc. of salt solution through the same cannula (the animals were etherized, so as to stimulate as nearly as possible an actual operation), and placed the best possible surroundings for recovery; 44 per cent of these animals recovered, while of the 12 subjected to the same infection, but without saline injection, all died.

From a clinical standpoint a record of 254 laparotomies performed in the Pennsylvania University Hospital, in which saline infusions were employed, only seven deaths occurred

The author concludes from these results both clinical and bacteriological, that the salt infusion unquestionably minimizes the danger of pyogenic infection, and renders the convalescence of the patient infinitely more comfortable through the reduction of thirst, increase of urinary secretion and lessening of vesical irritation.

BOOK REVIEWS.

The Courier of Medicine Company will mail, postpaid, any book reviewed, on receipt of price.

Prostatic Hypertrophy From Every Surgical Standpoint. By George M. Phillip, M.D., and Forty Distinguished Authorities. L. S. Matthews & Co, 2623 Olive street, St. Louis.

The author has by the compilation of this handy volume shed a great deal of light upon a question of decided interest to every practitioner. A series of fourteen questions thoroughly covering the surgical aspect of prostatic hypertrophy is answered in detail by the leading genito-urinary specialists and surgeons of the United States. The thoroughly practical treatment of this important subject renders this work a distinct addition to genito urinary literature.

Biographic Clinics, Vol. II. The origin of Ill Health of George Elliot, George Henry Lewis, Wagner, Parkman, Jane Welch Carlyle, Spencer, Whittier, Margaret Fuller Assoli and Nietzsche. By George M. Gould, M.D., editor *American Medicine*. P. Blakiston's Son & Co., Philadelphia. 1904.

This is the second volume which contains disconnected sentences of the compositions of the persons mentioned, and from these he makes a diagnosis.

We have previously called attention to the dangerous hardihood of making a medical diagnosis after the patient's death from a few symptoms mentioned in their writings. The first volume of the biographical clinics received general and adverse criticism. The ills of the student's life, with his dyspepsias, nervous irritability, sleeplessness, vertigo, palpitation, migraine, etc., can not be so simply disposed of as Dr. Gould attempts. Eyestrain is not the principal cause of this illness, neither can we admit that migraine is usually due to eyestrain.

Whatever interest the study of biography may have to offer suggestions or hypotheses, it can not be said that any definite scientific conclusions can be drawn from this source.

The Mattison Method in Morphinism. By J. B. Mattison. E. B. Treat & Company, New York. 1902. Price, \$1.00.

This monograph is "the outcome of thirty years' experience in the study and treatment of the morphin disease."

The treatment as outlined is rational, and, as the author maintains, "humane."

The writer concludes that "morphinism is vincible. Modern medicine has done much in its treatment."

The Man Who Pleases and the Woman Who Charms. By John A. Cone. The points of conduct, that mark of breeding, that spell success. Hinds & Noble, New York. Price, 75 cts., postpaid.

The Worth of Words. By Dr. Ralcy Husted Bell, with an introduction by Dr. William Calby Cooper. Third edition, revised and enlarged. Hinds & Noble, New York.

This work treats of the correct use of words.

Horne's Handbook of Parliamentary Usage. Arranged for Instant Use of Legislative and Mass Meetings, Clubs and Fraternal Orders, Teachers, Students, Workingmen, and all who desire to conduct themselves decently and in order in Public Assemblies. By F. W. Horne. Hinds & Noble, New York. Price, 50 cts.

Non-Surgical Treatise on Diseases of the Prostate and Adnexa. By George Whitefield Overall, A.B., M.D., Formerly Professor of Physiology in the Memphis Hospital Medical College. Rowe Publishing Company Chicago.

The author's endeavor has been to furnish a "plain, practical and concise summary of the methods and results of the non-surgical treatment of Diseases of the Prostate Glands." Dr. Overall does not discard the knife by any means, but has devised instruments, especially for the application of electricity and cataphoresis, and has instituted procedures that have been successful in those cases heretofore considered strictly surgical.

The book has 26 illustrations, and some 35 clinical cases are cited as illustrative of the different affections of the prostate and adnexa and results of this treatment.

This is a handy little volume and bears the imprint of careful study, and not of an overenthusiast.

Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition. By Prof. Dr. Carl v. Noorden.

E. B. Treat & Co., New York. 1903.

Part IV.—The Acid Autointoxications. By Prof. v. Noorden and Dr. Mohr. Small 8vo. Price, 80 cents.

These monographs are becoming well known. Von Noorden admits that the Germans were slow to accept the theory that many morbid phenomena were due to autointoxication. Once having accepted it, however, they studied it, as this little work will show. Here are some valuable conclusions: "Lessened carbohydrate feeding is the sole cause of acetonuria," and acetonuria is a subdivision of acid autointoxication. "Ingestion of butter may increase acetone"

All the facts, says the author, point definitely to intracellular processes as forming acetone. The enterogenous origin of this body is not sustained. The chapter on treatment is intensely practical, chiefly relating to the value of the alkalies.

The Perpetual Visiting and Pocket Reference Book. Including Information in Emergencies from Standard Authors, also the following comprehensive contents: Table of Signs and how to keep Visiting Accounts, Obstetrical Memoranda, Clinical Emergencies, Poisons and Antidotes, Dose Table, Blank leaves for Weekly Visiting List, Memorandum, Nurses Addresses, Clinical Record, Obstetrical Record, Birth Record, Death Record, Vaccination Record, Bills Rendered, Cash Received, Articles Loaned, Money Loaned, Miscellaneous, Calendars for 1904 and 1905. Bound in Morocco, Red edges. Pages 124. Price, 10 cents (to cover postage). The Dios Chemical Company, 2940 Locust street, St. Louis, Mo. 1904.

This is one of the neatest and most complete Visiting Lists offered to the profession. The Dios Chemical Company propose to furnish a limited number of this unexcelled Visiting List to the profession for 10 cents (for postage). The doctor will readily recognize that the Dios Company is saving no expense in keeping its name prominently before the profession, for whom it manufactures products, of more than ordinary merit, exclusively for the physician to prescribe. Those of our readers who desire a complete Visiting List, have only to remit 10 cents (for postage) to the Dios Chemical Company, St. Louis, Mo., and they will receive it.

NOTES AND ITEMS.

Announcement.

Of this issue we mail 5,000 extra copies with a view of increasing our subscription, see subscription blank, advertising page 3.

Pathological Exhibit at the St. Louis World's Fair.

There will be a pathological exhibit at the World's Fair in St. Louis under the auspices of the American Medical Association. The exhibit, which will be held in the Palace of Education in a gallery over the East main entrance, will be of wide scope covering the field of general pathology and bacteriology.

The President of the Association has appointed the following Exhibit Committee to take charge of the work:

EXECUTIVE MEMBERS.—Ludwig Hektoen, Chicago; A. J. Ochsner, Chicago; W. A. Evans, Chicago; W. T. Eckley, Chicago; L. F. Barker, Chicago.

DISTRICT MEMBERS.—J. N. Hurty, World's Fair; Frank P. Wynn, Indianapolis; Max Herzog, Philippine Islands; V. C. Vaughan, Ann Arbor; W. W. Keen, Philadelphia; J. S. Billings, Jr., New York; Philip King Brown, San Francisco; Ellsworth Smith, Jr., St. Louis; F. W. Farham, New Orleans; R. M. O'Reilly, U. S. Surgeon-General.

Dr. Ellsworth Smith, Jr., who has charge of the St. Louis district, has appointed the following Advisory Committee to assist him in the organization of an exhibit for his district:

Y. H. Bond, H. W. Bond, John Young Brown, B. Meade Bolton, Willard Bartlett, N. B. Carson, O. H. Elbrecht, W. E. Fischel, B. M. Hypes, Bransford Lewis, H. W. Loeb, Robert Leudeking, H. G. Mudd, Henry Schwarz, Chas. Shattinger, J. H. Simon, C. A. Snodgrass, Justin Steer, Hugo Summa, Robert Terry, E. F. Tiedemann and H. Tuholske.

Members of the profession of the State of Missouri are requested to forward specimens of interest suitable for exhibition to the chairman, Dr. Ellsworth Smith, 116 N. Grand Avenue. Provision will be made for the payment of transportation charges and also for the safe keeping and return of the specimens.



DR. A. LITTON.

Born in Dublin, Ireland, May 20, 1814; Died in St. Louis, Sep. 22, 1901.

(See Biographical Sketch).



DR. M. L. LINTON.

Born 1807; Died in St. Louis, June 1, 1872.

(See Biographical Sketch).

ST. LOUIS

COURIER OF MEDICINE.

VOL. XXX.

MAY, 1904.

No. 5.

ORIGINAL CONTRIBUTIONS.

Leukemia.

By J. M. BUCHANAN, M.D.,

ST. LOUIS, MO.

AMONG the diseases of the blood and ductless glands we find, classed by the authors, that of leukemia, an affection characterized by a persistent increase in the white blood cells, associated with hyperplastic changes, either alone or together, in the spleen, lymphatic glands and bone marrow. It was described about the same time by Virchow and Bennett, the latter naming it leukocythemia. There are two main classes—the spleno medullary, or myelogenous, in which the chief changes are in the spleen and bone marrow; and the lymphatic, in which the lymphatic tissues are principally involved. Nothing definite is known as to the cause. It occurs in all countries, in both sexes at all ages, although more common in males during middle life. Among predisposing causes are mentioned heredity, malaria, syphilis, injury and also pregnancy. Klebs advanced the idea of an infectious origin, but no single organism has as yet been associated with it.

Pathologically we find the spleen enlarged, increasing in weight and firmness, as the disease progresses; in the marrow

*Read before the Medical Society of City Hospital Alumni,
February 4, 1904.*

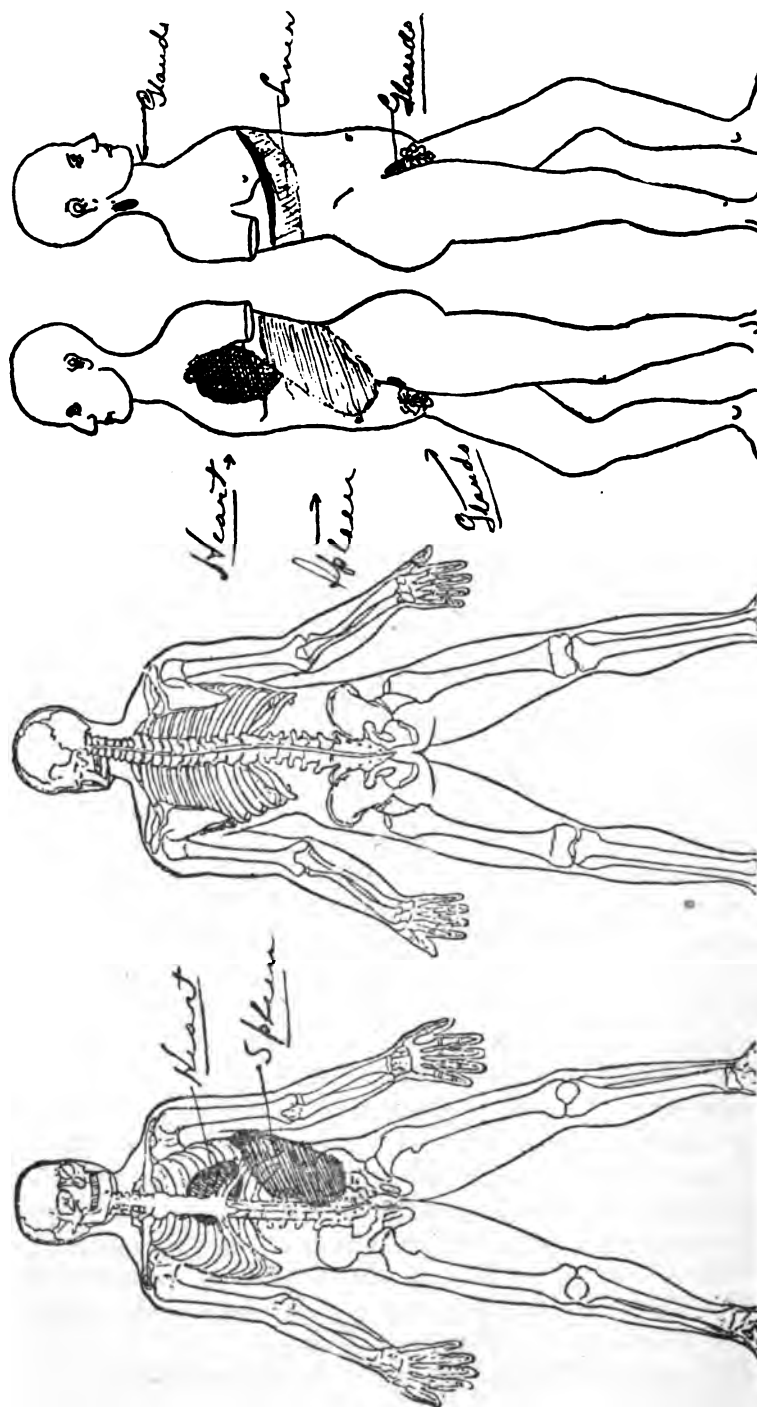
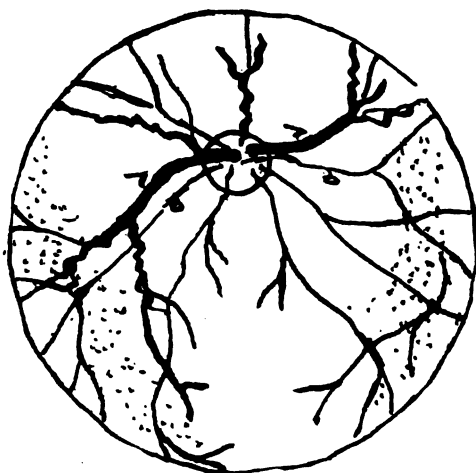


Diagram of Heart, Spleen, Liver and Glands.

there seems to be a reversion to embryonal type, the fat being replaced by lymph cells and nucleated red blood cells in all stages of development. A true hyperplasia of many chains of lymph glands. The liver often is enlarged and infiltrated with leukemic patches. In the blood, in the spleno medullary variety we find an increase in the larger varieties of leukocytes, while in the lymphatic we find an abundance of small lymphocytes.



Fundus of Left Eye.

The case I have to present is one I take to be of the spleno medullary type, although he has some lymphatic involvement, and gives many of the classical symptoms.

The patient, William Coombs, aged 34 years, single. Native, New York; in the city 15 years; occupation, bartender. No hereditary tendencies. He had malaria six years ago and gonorrhea twice; regular habits; drank beer and used tobacco moderately; sexually, was rather excessive.

He noticed a lump in his left hypochondrium many years ago but this did not cause any pain or inconvenience, but has gradually become larger.

Beginning in May, 1903, he suffered from priapism for eight weeks, since which time he has had no sexual desire. Other symptoms presented are languor, faintness, dizziness and weakness, with dyspnea and palpitation on exertion; also tinnitus aurium, hematemesis and nose bleed. Deafness came on suddenly during the night, but he hears now with difficulty in the right ear.

The patient is of medium size, emaciated, pallor of face, eyes bright, pupils equal and react to light and accommodation; the retinae show engorged and tortuous veins, pale fundus, around periphery of which are pigmented areas of varying size, and in the superior part a more recent hemorrhage. Lungs normal; heart dullness normal, no murmurs; pulse increased in rate, soft and compressible in character. The lower intercostal spaces are somewhat bulged and grade off into a much distended abdomen, presenting dilated superficial veins. A firm, resisting mass can be felt in the left hypochondrium, extending downward and forward to within one inch of the median line and to the iliac crest, percussion note is dull over this area.

The liver extends three fingers below the costal margin, and there is a moderate ascites.

The legs and feet are edematous and show purpuric areas. The lymph glands in both groins, also the chain posterior to the sterno mastoid muscle on the right side are enlarged but not painful.

The urine contains a trace of albumin. In the blood the leukocyte count in September, 1903, was 440,000, and in January, 1904, 467,000, to-day it is 468,750 to the cmm., mostly of the large variety.

Red cell count to-day 3,200,000; hemaglobin 27 per cent.

Diagnosis: Spleno medullary leukemia.

The treatment has been rest, quiet and liberal feeding, with two ounces of fresh bone marrow three times a day, and gradually-increasing doses of Fowler's solution; he is now receiving 8 minims three times a day.

Ligation of the Common Carotid Artery.

By J. M. PFEIFFENBERGER, M.D.,

ST. LOUIS, MO.

JANUARY 1, 1904, the patient, Wm. H., aged 34 years, was brought to the hospital, suffering with a stab wound of the left side of the neck about one-half inch below the angle of the jaw, from which protruded a pair of artery forceps

*Read before the Medical Society of City Hospital Alumni,
February 18, 1904.*

and a plug of gauze applied by a doctor outside, but was still bleeding profusely, also a small incised wound of the left wrist, which severed the extension tendon of the little finger.

The area about the wound in the neck was shaved and cleaned, the gauze, plug and forceps removed, when there was a profuse flow of blood from the wound, which was sponged away, but filled quickly from a spurting located in the depth of the same. Compression was applied against the common carotid lower down on the neck, and the hemorrhage partly controlled, but there was still some bleeding in the upper portion of the wound just below the angle of the jaw, which was controlled by application of forceps. The wound was next enlarged downward along the anterior margin of the sternocleidomastoid muscle. The compression was now eased up from below, and the site of injury to the artery located, which was at or near the point of bifurcation, and a pair of forceps applied to same, after which all bleeding was stopped.

The anterior portion of the sternocleidomastoid muscle was now pulled backward, and the vessel dissected out from its sheath, just above the omohyoid muscle; the vein, which was collapsed, lay on the vessel and anterior to it. An aneurism needle with a ligature was now passed from without inward hugging the artery closely. After lifting the vessel up with ligature to see that it contained nothing besides the artery, the same was ligated twice to insure safety against one ligature breaking. The forceps were now removed, and bleeding from that point ceased. A ligature was then tied where the forceps were applied in the upper angle of the wound, and the area sponged dry, all hemorrhage being controlled. A drain was placed in the wound, and one stitch taken in the center to hold the edges together.

A slight movement of the entire body was noted, and the patient uttered a slight groan when the carotid was ligated, could move both feet and legs, and both arms, and talked intelligently afterwards, complaining of great thirst; nothing abnormal was noted about him, except his exsanguinated condition and rapid pulse. He was given an hypodermoclysis of 850 cc. of normal saline solution in the left thigh. The small wound on his wrist was attended to by suturing the tendon together with cat gut, and the patient placed in bed. An hour later he was given another hypodermoclysis of 850 cc. of normal saline solution in the right thigh. Patient vomited

some about three hours later, and about one hour after vomiting it was observed that he was sweating profusely on the right side of the body and face, and that he was unable to move the affected side of his body, with the exception of his fingers. The Babinsky reflex, the Achilles and patellar reflex of Westphal were present on the affected side. The tongue protruded toward the sound side, and he was unable to turn it toward the affected side. A slight drooping of the angle of the mouth was also noted on the left side. His pupils were equal and responded to light and accommodation. There was some difficulty in speech and in swallowing, and a greater movement of the left side of chest during respiration. No sensory symptoms present. He complained of throbbing in the head and dizziness at times. The next day his condition was just about the same, his pulse being 126, respirations 24, temperature 99° in the morning, and pulse 114, respirations 22, temperature 101° in the evening. The third day his pulse registered 108, respiration 24, temperature 99.2° in the morning and 100° in the evening. Moved his fingers on the paralyzed side, when asked to, but not without moving the fingers of the other hand at the same time. The fourth day, pulse, temperature and respirations about the same, still moved fingers of both hands, when requested to move fingers on the affected side. He complained of insomnia, and when he did sleep was awakened by the slightest noise. The fifth day, his pulse registered 90, respirations 24, temperature 99.4° could move fingers of the paralyzed side, when other hand was closed; after this the pulse, respiration and temperature gradually dropped to normal, and remained so. On the eighth day, he could move his arm slightly, and on the twelfth day, could put his hand to his mouth and raise the arm from his chest into the air, but could not move the rest of the right side. The patellar and Babinsky reflex still present, as was the impediment in speech. On the thirteenth day was transferred to a Medical Division, and the next day was taken home.

After presenting the symptoms, which followed the ligation, the question naturally arises what caused the same. First, the transitory sweating of one side; next, the partial hemiplegia and the deviation of the tongue to the sound side, followed in a few days by a gradual improvement of the symptoms, in a way directly opposite to the usual recovery of a hemiplegia due to hemorrhage, in that the hand and the arm

were the first to show signs of recovery, they usually being last.

The disturbance of speech and swallowing may have been due to injury to descendens noni hypoglossis nerve, as the same must have been severed, although it may have been due to the central lesion; next, the transitory hemidrosis could probably be explained from some injury to the cervical sympathetic, which could have been compressed by the application of the forceps, which were applied to the tissue enmasse by the doctor who first saw the patient.

The partial hemiplegia can be explained by the anemia of the brain produced by the sudden cutting off the blood supply to the left side. The stream of blood through that side of the brain was impeded by the initial injury to the artery, and after the same was stopped entirely, the blood which was in the vessels, lay there and probably formed a small clot, which will gradually become absorbed, as the colateral circulation becomes more established.

Although the patient lived, and improved, I think, more conservative surgery could have been done on the case, since reading up on the results of the ligation of the common carotid, in that according to several authors, the mortality has been from 13 per cent, according to Friedlander,¹ to 41 per cent, according to Bryant² and that cerebral lesions followed in about 32 per cent, according to Piltz³. Jacobson and Steward⁴ state :

In incised or punctured wounds, near the angle of the jaw, a correct diagnosis, as to the vessel, or vessels injured, is by no means easy when a sharp weapon has passed obliquely and deeply behind the jaw. By such a wound, either the external or the internal carotid, or some branches of the former, may be laid open. A careful dissection alone can clear up the source of bleeding, and whenever it is possible, this should be resorted to; where the circumstances do not admit of this the surgeon, relying upon the extreme rarity of injury to the internal carotid from its protected position will be abundantly justified in tying the external carotid. Ligation of the common carotid is less reliable, though, if resorted to on account of its simplicity, it may be defended by cases like those alluded to by Mr. Le Gros Clark,⁵ in which he successfully tied the common carotid for profuse arterial hemorrhage, due to stabs near the angle of the jaw.

He reports two cases from stab with a pointed table knife at the angle of the jaw, in which the carotid was tied, and no untoward symptoms developed.

In a paper written by Geo. W. Crile⁶ on the "Temporary Ligation of the Carotid," he states that he ligated the common carotid in nineteen dogs temporarily for a length of time varying from 24 to 48 hours, and that in those vessels where the pressure produced was only sufficient to close the lumen, the histologic changes were unimportant, and that in no case did clotting occur, the compression was made by a specially devised clamp, of which he gives a cut.

In the case presented the artery at the sight of permanent ligation could have been temporarily ligated, and the exact site of injury determined at which place a permanent ligation could have been made, and probably evaded the occurrence of the grave symptoms, which followed. But this case was a patient, who had lost a considerable amount of blood, and was still losing blood rapidly, necessitating immediate action.

NOTE.—April 27, 1904. I heard from the patient's physician to-day that he now walks to his office with the aid of a cane and is improving rapidly.

BIBLIOGRAPHY.

¹Tillman's Text-book of Surgery, vol. 2, page 523

²Bryant's Operative Surgery, vol. 1, page 169.

³Pitz, Tillman's Text-book of Surgery, vol. 2, page 523.

⁴Jacobson and Stewart, The Operations of Surgery, vol. 1, page 587.

⁵Ibid.

⁶G. W. Crile, American Jour. Med. Sciences, 1901.

Acute Osteomyelitis of the Femur.

By C. G. KIRCHNER, M.D..

ST. LOUIS, MO.

I DESIRE to present a femur in section which shows the medullary portion. In the medulla of the shaft there can be seen a gelatinous substance. The ends of the shaft are well preserved, as is also the cortical portion. I wish to

*Read before the Medical Society of City Hospital Alumni,
February 18, 1904.*

call the case to the attention of the Society in connection with an article which appeared in the *Journal of the American Medical Association*, February 13, 1904, in which the subject was discussed. The patient was treated first for rheumatism. Both knees were swollen and painful, and the ankle-joints were also affected. The physician who first saw the case aspirated the knee-joint. The swelling subsided but abscesses developed on both thighs and about the hip. There was swelling about the elbow-joint, and fluctuation being made out, the joint was aspirated. At first there was only clear fluid, but later pus was found. A condition of pyemia developed and numerous abscesses were opened and drained. The abscess on the left leg and thigh did not heal readily. The sinuses were followed up and freely opened and the entire knee-joint was exposed. The patella, lower end of the femur and a portion of the upper end of tibia had become necrotic. The necrotic tissue was curetted away and the sinuses that had closed up were re-opened and drained, but the patient did not improve. The specimen shows how quickly an infectious process may ascend through the medullary portion of the bone.

Some months ago a case had been received at the hospital in which the cortex was involved. An x-ray picture was made, and based upon this picture, an operation was performed and large slivers of bone were taken from the inside of the shell. The specimen here could be considered the first step in such a process. There was present a heart lesion which helped, in the mind of the attending physician, to confirm the diagnosis of rheumatism. Just why this acute condition should be present could not well be explained, for the condition about the joint seemed to be a chronic one. The pus was examined and streptococcus, staphylococcus, etc., found, but the tubercle bacillus was not found, though it was thought at first that it was a case of tuberculosis of the joint. In regard to the pathology of these cases, I must refer to the very interesting study of these cases, made by Dr. Edward H. Nichols, of Harvard. He states that in most cases the staphylococcus is the primary cause but the streptococcus has also been found, also the typhoid bacillus and the pneumococcus. Often the condition is mistaken for rheumatism. Sometimes it simulates typhoid fever. He goes extensively into the pathology. He states that suppuration leads to disintegration of the cortex, and later

to sinus formation, and that often there is edema and swelling of the joints and surrounding tissue. The condition of the bone causes a great deal of pain. Jarring of the limb or percussion of the bone causes pain and this can be taken as one of the symptoms. Another diagnostic point distinguishing it from rheumatism is that it affects usually one joint. The medullary portion of the diaphysis is usually affected and not the epiphysis. The process may go on through the cortex and may proceed to the periosteum and the entire periosteum may be loosened up. The author speaks of the importance of the periosteum and the endosteum, stating that they have much to do in the formation of the new bone. Based upon the integrity of the periosteum he has devised an operation which would be something like this: If, for instance, the femur was affected, an extensive incision would be made along the thigh, the periosteum exposed and loosened up all around the portion of bone involved in this process entirely removed, so that there would be left only the ends of the bone. The periosteum then represents a band and this band would be folded upon itself, fastened with sutures, and making a narrow ribbon, from the approximated surfaces of which a new shaft would be produced. In a number of months the bone is regenerated and the function of the limb can be brought about.

Recent Therapy in Epilepsy.

By GIVEN CAMPBELL, M.D.,

ST. LOUIS, MO.

THE hypochlorinization or salt starvation method of treating epilepsy is comparatively new. In explaining its theory we may get clearer ideas of the manner in which the bromids produce their effect. In considering its practical application, some help may be extended to those less familiar with the difficulties of carrying out this treatment and the advantages of its employment in suitable cases.

As is well known, bromin and chlorin, both members of the halogen group, are quite similar elements. There is reason to believe that in the very early days of life's presence on this

*Read before the Medical Society of City Hospital Alumni,
February 18, 1904.*

earth, when most living organisms were still inhabitants of the ocean that bromin did duty for chlorin in many of the organic combinations of the body. That where human tissues now contain chlorids often in these earlier days of life's history bromids were their predecessors. As life came up and out from the seas the organism was no longer surrounded by relatively considerable amounts of bromin and vital adaptation required that its place be taken by the more generally distributed chlorin, and so through the course of the ages bromin has ceased to be a normal constituent of higher animal structure; its very presence in the body exerts a marked effect in diminishing the activity of the nervous tissues, generally of certain systems of neurons in particular. But while bromin in this sense has ceased to be a food, and has become a medicine, the system still retains more or less of the ability to take it into those organic combinations from which chlorin long since displaced it. This ability varies with the individual. Some so strongly retain the ancestral trait that even in the presence of an abundance of chlorids their tissues will take up sufficient bromin when moderate doses of a bromid are administered. With others it is necessary, more or less, to restrict the chlorin intake and make the tissues, as it were, hungry for halogen material before they will form proper unions with bromin.

Experiments on the lower animals have been made, which prove the foregoing statement. Dogs which have been deprived of chlorids and to whose food bromids have been added, on being killed and the tissues examined have proved to yield a much larger amount of bromin than other dogs, to which the same amount of bromids had been administered without restricting the chlorids.

The salt starvation treatment of epilepsy then consists of restricting the chlorin intake of such individuals, as without this aid they do not take up enough bromin to influence their nervous system, or in doing so require a dose of bromid so large as to cause troublesome cachexia and acne.

The practical difficulties in the way of carrying this out are considerable. In the first place such a course means that the patient's food be cooked without salt; another way of saying that it be cooked separate from that of the rest of the family. When it is remembered that the treatment is a long one, this inconvenience is seen to be great. Then the patient's food must be restricted to such articles as contain but a small

amount of natural chlorids. Lastly and most important, when one is required to eat unsalted food for a long time it becomes very unpalatable. The appetite wanes and the nutrition falls off or the patient rebels. To obviate this last difficulty it has been suggested that sodium bromid, which in taste and seasoning value can hardly be distinguished from sodium chlorid, be added to the food while it is being cooked. That the dough from which the bread is made be thus salted. While this expedient has much value it has certain disadvantages. The key to epilepsy's successful management is to accurately adjust the patient's dose of bromin to his needs. Any treatment which makes the patient's bromin intake, depend on the variations of his appetite for food, has in it a vital defect. In attempting to get around this obstacle I have devised the following method, which is, as far as known, new.

The food is unsalted in cooking. A considerable part of his nourishment is made to consist of milk, vegetables, unsalted bread and butter, eggs, and a limited amount of meat. To prevent his food from tasting insipid it is salted with sodium bromid, but this is done at the table and care is exercised that he salts only the portion he intends to eat. His daily quantity of dry sodium bromid is carefully measured and he is instructed to dissolve any remaining part in a glass of water and take it at bed time or just after supper, as circumstances may require. It will usually be found, however, that the whole amount of sodium bromid he requires as his dose will be needed to make his food palatable. This plan lends itself well to the dose suffesante method of the French school. It consists in giving the patient for one week a dose of bromid just large enough to miss causing bromism; the next week this daily dose is reduced by 2 grams, to be increased 1 gram the week following, and given again in the full dose the third week. In this way the patient is left on an amount of bromid sufficient to very effectually impress his cortex and control his disease for one week out of every three. During the other two weeks his nutrition is spared the full dose and the lessened dose with the remaining effect of the full dose continues ample to control his attacks.

To accomplish this a narrow 2-dram phial is filled with the requisite amount of dry sodium bromid for each of the three weeks, and the level of each week's dose is indicated by a line on the glass, made with a file. The person having the

patient in charge is now given a large bottle of dry sodium bromid and instructed to fill the measuring phial each morning to the required mark. A piece of perforated paper is now fixed over the phial's mouth with a rubber band and it is used as a salt shaker. Instructions, of course, being given that if any remains unused after supper it is to be dissolved in water and taken.

While the salt starvation treatment would be as effectual as any other in all cases where bromid is given, with many patients bromid is so well taken up in the presence of unrestricted sodium chlorid that the inconveniences which this method entails to the patient's family need not be undergone. It is only where a dose of bromid large enough to disturb the digestive tract or cause troublesome skin and nutritional disturbances, fails to impress the nervous system that this method is required.

To speak more specifically, when the high week's daily dosage is over 7 grams this method is usually required. By its employment in such cases the daily amount of bromid can usually be reduced 1 or 2 grams.

A number of cases could be cited where the beneficial effect on the spells and on the patient has been noticeable. One perhaps will illustrate:

Daisy S., aged 11 years. Attacks began two years ago; grand mal; at first two spells a week occurring day and night. Lately, has forty-eight spells a month. She was put on sodium bromid in solution, was taken in average dosage of 8 grams a day for one year. During this time she had one hundred and four spells, average not quite nine a month, a reduction of four-fifths. She was then put on salt starvation on which she has been kept since (July, 1902). Her average dose, even with her increasing age, has been 6.5 grams. She has had sixty-two spells in the last eighteen months, an average of seven in two months. Her general condition is much improved both physically and mentally and the attacks that still occur are much lighter.

In concluding it may be well to state that the hypochlorinization method is of special and not of general applicability in treating epilepsy. Its use should be reserved for such cases as do not absorb the bromids well. These are cases that previous to the introduction of this aid were considered hardly amenable to the bromid treatment at all. Administered as here recommended the dose can be as accurately controlled as by any other method. The appetite keeps good, as the food is seasoned to the patient's taste, and the objection sometimes urged against this method in the past, that the patient under its employment looses in nutrition does not apply.

SPECIAL ARTICLES.

The Use of Currents of High Frequency in Diseases of the Digestive Organs.

By G. HERSCHELL, M.D.,

LONDON, ENGLAND.

THERE is no exaggeration in saying that these currents put an entirely new power in our hands in treating this class of diseases, and enable us to effect cures in cases which, with other measures, have proved useless. In order to select cases in which they are likely to prove useful it is necessary to understand broadly what actions they have upon the human body and what we can effect with them. By a general application such as auto condensations, or less efficiently by placing the patient in the circuit obtained by deviations from two spires of the solenoid, we cause the body to be permeated with electricity at a potential of perhaps a million volts and probably having about the same number of alternations per seconds. The effect of this has been proved experimentally by D'Arosval, Marie and many other observers, to increase the metabolism of the body and incidentally to cure all those cases of neurasthenia which depend upon autotoxins from perversion of the nutritional functions of the tissues. By the local action we may obtain quite opposite effects upon the body according to the method by which it is applied.

1. They may act as a sedative to the nerves and glands.
2. They may exercise a stimulating effect upon glands and nerves.
3. Muscular contractions may be secured.

The key, then, to understanding the effects of currents of high frequency is to remember that they can be made to exercise a manifold function; viz., to increase metabolism, to allay sensibility, to stir up the sympathetic system of nerves

and increase or diminish the function of glands, to tone up unstriated muscular fiber, and incidentally to act as a general tonic.

As regards my personal experience of the clinical uses of high frequency currents, I propose to take Boardman Reed's questions and discuss them *seriatim*.

1. Are high frequency currents of any avail in any form of gastro-intestinal catarrh?

The only forms in which I have found them of use, are in the so called intestinal neuroses of secretion. I mean mucomembranous colitis. In several cases of this nature its use has promptly relieved the paroxysms of pain, and after a course of several weeks the patient's condition was evidently much improved. In these cases the application was made with one electrode in the rectum and a large wetted piece of lint under a metal upon the abdomen. The current was taken in derivations from twenty-one spires of the small solenoid of D'Arsonval's apparatus, the milliampereter registering between four and five hundred milliamperes.

In gastric catarrh, that is, chronic mucous gastritis, I have not yet had any experience, as I have not yet succeeded in devising an electrode by which the effluve from the resonator can be applied directly to the mucous membrane of the stomach. When this can be accomplished, we may, I think, expect good results to be obtained. The percutaneous method and the method with electrodes in contact with the lingual mucous membrane, whilst exercising sedative effects upon the nervous mechanism do not appear to influence inflammatory processes. For these we require the effluve or the sparks from a condenser electrode.

2. The use of the currents in constipation of atonic, or of spastic origin.

Currents of high frequency will do good work in both these conditions, but to produce the specific effect must be applied in a different manner for each. In the treatment of atonic constipation we have two objects in view.

First of all, to improve the innervations of the intestines. We accomplish this by the stable use of the solenoid currents, applied by means of an electrode in the rectum and one upon the abdomen. We raise the tone of the whole nervous system by auto-condensation on the couch, and we stimulate the

nerve centers in the lumbar region by the local application of the sparks from high vacuum electrodes.

Secondly, we try to improve the tone of the abdominal and intestinal muscles. For this we use the current from the solenoid, but we insert a spark gap in the circuit, which will give it the power of causing muscular contractions of a singularly painless nature. One very good method of administering currents for this purpose is to use the hand of the operator as an electrode, one pole of solenoid being attached to a metal band round the wrist of the operator, and the other to a metal electrode placed within the rectum of the patient. The abdomen of the patient is then gently massaged with the charged hand of the operator. This method is especially valuable in children. The spark gap should be adjusted to produce vigorous contractions of the abdominal muscles.

Spastic Constipation.—As this is a local manifestation of a general neurasthenic condition, we should treat the patient generally upon the condensation couch at the same time that we apply the sedative current from the resonator to the abdomen. With Dean's apparatus both these processes can be carried on simultaneously the patient lying on the condensation couch attached to the two poles of the solenoid, whilst to his abdomen is attached a large metal or wet pad electrode attached to the top of the resonator.

In the treatment of some cases of constipation high frequency currents give very striking and brilliant results; in others, particularly those of very long standing, the triphase alternating currents of low tension appear to be more useful. As an example of rapid cure of atonic constipation, I may cite the case of a little girl, aged 7 years, who came under my treatment upon June 8, of this year. She was a native of South Africa, and since landing in England, four months previously, had been very constipated. On several occasions large doses of castor oil upon several successive nights failed to secure an action of the bowels, which was only secured by recourse to large enemata. I commenced treatment on June 8. There had been no action for four days. Applications were given on alternate days, using the current from a solenoid with a spark gap in the circuit in the manner described—one pole in the rectum and the other on the abdomen. Two copious actions of the bowels took place shortly after the first application. Only three treatments in all were given, the patient

ceasing to attend, as the natural daily functions of the bowels appeared to be completely re-established.

3. The efficacy of high frequency electricity in gastric atony.

According to my experience good results are obtained in the slighter degrees of gastric atony, which so often accompany general neurasthenia. In these cases whilst yet able to empty itself in five or six hours, the stomach has lost its tonicity, and is unable to contract so efficiently upon its contents as to preclude the occurrence of splashing during practically the whole of the digestive period. In these cases a course of auto-condensation, at the same time giving local applications of the interrupted solenoid current to the region of the stomach will usually cure the patient in four to five weeks. In my experience the severer cases, which are marked by stagnation and retention of food residues, are more efficiently treated by means of the triphase alternating current with one intragastric electrode.

4. Painful gastro-intestinal neuroses.

Gastralgia Not Arising From Hyperchlorohydria.—I have not had an opportunity of trying the effect of effluning the interior of the stomach in case of this nature, as my electrodes are not yet completed.

Intestinal Colic and Cramp.—I have only had opportunity to try high frequency currents in two cases but in both cases with complete success.

[This article by Dr. Herschell of London is of such interest in dealing with high frequency currents that we have copied it at length.]

H. N. CHAPMAN, M.D.

LEADING ARTICLES.

THE BIOLOGY OF CANCER.

By E. A. BABLER, M.D., St. Louis.

It is true that to consider cancer from the biological standpoint is no new study and yet, it must be admitted that the lines of inquiry which have led apparently to issues of importance have been essentially biological in character.

To the immortal Virchow belongs the credit of having been the first to call attention to the changes in the interior of the cells and the presence of bodies having a well-defined outline, and he termed the latter *physalides*.

Moran¹ was the first to make systematic experiments to show the transmissibility of malignant new growths by transplantation from one animal to another.

Marnoch² transplanted cancer tissue from a human cheek into the subcutaneous tissue on the back of a guinea pig but was unable to obtain any evidence of the epitheliomatous tissue present some months later. After extensive work along this line he believes that cancer tumor is not merely epidermis which has found its way deeply into the underlying parts, but that the epithelioma entering into the composition of these tumors must, for some ulterior reason, be endowed with specific properties, not merely of proliferation, but of burrowing into foreign parts.

Hausemann has made quite extensive researches and refers the cancer process to a biological change in the parenchymatous cells, whereby they become less and less differentiated, lose more and more of their functional power, and at the same time increase greatly in their capacity of cell proliferation. Hanan, Renecke, Hauser and others incline to Hausemann's theory.

Savory's views predicate a change of cell structures, a loss of cell function and a return to an embryonic state with its enormous power of cell multiplication (quoted by Henry Morris).

Clowes³ mentions the fact that it is impossible to infect healthy individuals with blood of cancer patients but only by means of the intact cells.

Williams⁴ has noted that when the stroma of carcinoma is itself of new formation, it is usually free from elastic fibers.

Hahn succeeded in grafting carcinoma from one part of a human being with incurable disease to another part of the same patient (quoted by Henry Morris).

Shaw⁵ regards the hyperplasia of the nucleins and the hyperchromatosis of certain mitotic figures as characteristic of malignant new growths. He considers the life history of cancer cells as atypical.

Borrell⁶ assumes that the essential cell of carcinomatous tumor is a normal cell except in so far as it may be subject to casual modification due directly to its environment.

Marchand⁷ holds that in malignant new growths it can be demonstrated with absolute certainty that the metastases originate solely through the transplanted tumor cells which have no infectious action upon the tissue elements and do not cause a transformation of normal epithelial into cancer cells.

Jensen⁸ has been one of the foremost investigators and records his extensive experiments with white mice. He succeeded in transmitting through nineteen generations a tumor growth originally derived from cells of a melanosarcoma on a horse. The histologic findings indicated a pronounced carcinomatous structure but there were no evidences of metastases and the malignancy was only evidenced by its progressive growth and the undifferentiated character of the cells.

Transplantation was the method used, which was successful in 40 to 50 per cent of all attempts made on white mice. He found that the cells retained their vitality for twelve days at room temperature. At 1 to 3°C. they survived eighteen days; at temperature above body heat they died rapidly.

The somewhat prophetic assertion made by J. Rose Bradford,⁹ in his valuable memoir on the "Relation of Biology to Medicine," that whatever the nature of cancer may be, a great amount of light will be thrown on that subject by the researches of the pure biologist rather than by those of the human pathologist, seems to have been corrobor-

ated by the very recent investigations of the Cancer Research Fund, whose report presented by the directors, E. F. Bashford and J. A. Murray.¹⁰ The specimens were obtained in animals drawn from the different classes of the vertebrate phylum, and it is worthy of note that the anatomical, pathological, clinical and microscopical characters of these new growths were identical with those found in man in all essential features.

The writers found that malignant new growths are frequent according as animals are carefully examined, and are unrecorded in forms which are difficult to examine or do not reach old age in considerable numbers.

The progressive increase in the size of malignant tumors is due to the division and increase in size of their constituent cells. The process of cell division is usually indirect, mitotic division of the nuclei preceding the division of the protoplasm. Peripolar figures are frequently present. The full significance of amitosis has not been fully determined—it is, however, evident that it does not signify degeneration.

The observations made by Farmer, Moore and Walker, that while the growing margins of carcinoma and sarcomata presented mitoses similar to those found in other tissues in repair and inflammation, certain cells in the deeper layers, after a slight increase in size, entered on mitoses with ring chromosomes similar to those found in the heterotype division of spore-matter cells of plants and spermalocytes of animals and, like these, with chromosomes in number only half that characteristic of the mitoses of somatic cells, have been fully corroborated by Bashford and Murray.

Mitoses in the stroma were relatively scanty in the tumors placed at the disposal of the authors, but such as were seen by them were somatic in character. The writers found that a complicated sequence of cell changes is characteristic of carcinomata and sarcomata. Reference is made to the very extensive researches of Jenser of Copenhagen, whose observations have been confirmed by microscopical examination of the tissues at the site of inoculation. The earliest mitoses observed were somatic in type.

Bashford and Murray hold that the wide zoological distribution of malignant new growths indicate that the cause of cancer is to be sought in a disturbance of those phenomena of reproduction and cell life

which are common to the forms in which it occurs. They further contend that malignant new growths in animals are always local in origin and of themselves produce no evident constitutional disturbance whatsoever. These facts are considered to be in full accord with clinical experience in man.

Cancer is thus considered an irregular and localized manifestation of a process otherwise natural to the life cycle of all organisms.

In closing their report the following note is appended: "The cells which have undergone the reducing division are not responsible for the active invasion of surrounding tissues nor for the production of metastases; the cells dividing somatically are responsible for both. The number of heterotype mitoses may not stand in any relation to the degree of malignancy, and their absence is only presumptive evidence of the benign character of the tumor. We postulate nothing as to the future of the cells which have undergone the reducing division, though we believe the latter to be a terminal phase in the life cycle of cancer cells as it is the history of sexual cells in animals. The local origin and the expansive and infiltrating growth of cancer in its relation to surrounding tissues, while respecting its own proper elements, is the criterion of its malignancy. This stamps it as belonging to a new cycle comparable in its entirety to the whole organism which it is invading rather than to any one of its tissues, reproductive or otherwise."

We can thus see that many of the former investigators quoted have pointed toward the conclusions reached by the Cancer Research Fund. To the reviewer it appears as though we were gradually but slowly progressing in the right line toward the much sought for goal. The lines of investigation seem to be narrowing, and the comparative study of the distribution of cancer will evidently play an important factor in future work. We hope that systematic work on the same lines will go forward.

BIBLIOGRAPHY.

¹Archiv de Medicine Experiments, 1894.

²London Lancet, July 6, 1901.

³Ibid., Sept. 19, 1903.

⁴Science of Medicine, page 292.

⁵London Lancet, Sept. 20, 1902.

⁶Foulerton in the Practitioner, 1902, page 216.

⁷Deutscher Med. Woch., 1902, No. 40.

⁸Centralblatt f. Bak., etc., Band 1 and 2, 1903.

⁹London Lancet, June 21, 1902.

¹⁰Ibid., Feb., 13, 1904.

SODIUM CHLORID AND THE GASTRIC FUNCTION.

By A. S. BLEYER, M.D., St. Louis.

The primary effect of NaCl taken directly into the stomach is a diminution of the percentage of HCl; this was established after much debate by Reichmann. A higher saturation of the entire organism with NaCl, however, has the effect of decidedly increasing the HCl production. This is especially marked in hyperchlorhydrics and in dogs.

Again, absolute suppression of NaCl will frequently bring about a relative suppression of HCl and in some cases, a complete absence. This is of the greatest moment in the light of our present treatment of epilepsy and in the salt-free dietary adopted in occasional kidney and heart cases.

It seems, however, that the HCl percentage is more perceptibly modified in those cases where there is a low average per cent of NaCl. For example, hyperchlorhydrics suffer absolutely no modification through the influence of salt unless a very intense and prolonged chlorination of the organism is maintained.¹

The restriction or absence of NaCl has a more decided effect. Laufer² attaches great importance to the salt-free diet in hyperchlorhydria patients, and Hayem³ maintains that an abnormally high percentage of HCl can be reduced by an almost salt-free diet.

Ambard, Beaujard and Laufer⁴ observed the intimate relation between arterial hypertension and retention of chlorids. Nephritic patients commonly display such retention—the chronologic order of affairs being, retention of salts by impermeable kidneys, appearance of arterial hypertension and, lastly, the appearance of edemas. We can then compute the rôle of such salt saturation in the the gastropathies and the importance of a salt free diet in such cases

Vincent⁵ attempts to show a more or less strict parallelism between the percentage of HCl in the gastric juice and the quantity of NaCl ingested. He assumes the hypothesis that the HCl derives its source from the blood and is dependent upon a chemical interchange governed above all thing by the state of osmotic tension existing at the time on both sides of the gastric cells, tending always to equalize itself by interchange of dialytic atomicities.

He made observations on a young subject, aged 22 years, examining the stomach contents one hour after the ingestion of the test meal, which was always given in the morning. The first test was to find the effect of a thorough chlorination by adding 12 grams of NaCl per day to an ordinary diet. Examination of the gastric juice two and four days later.

The second test was a complete restriction of NaCl for ten days.

In the first instance a violent hyperchlorhydria was produced, attended by the usual pathologic symptoms. On the establishment of the salt-free diet the subject became relieved of his symptoms and gained six pounds in weight.

The observation shows the necessity of a salt-free diet in cases of hyperchlorhydria.

As to the influence of salt on peptic digestion it is found that it always retards it. Gram 0.30 of salt having the effect that would result from a 40 to 50 per cent reduction of the pepsin. The ordinary quantity taken at meals offers an interference to the rapid formation of syntonins.

BIBLIOGRAPHY.

¹Le Prog. Med., Jan., 30, 1904.

²Ibid.

³Gaz. Med. de Paris, Feb. 13, 1904.

⁴Le Prog. Med., Feb. 20, 1904.

⁵Communication to the Soc. Med. des Hopitaux, Jan. 20, 1904.

SILVER IN THE TREATMENT OF GENERAL INFECTIONS.

It will be recalled that for several years the so-called colloidal or soluble metallic silver has been receiving considerable attention as an internal antiseptic in various general infections; and reports from many different sources when critically compared prove that it has a definite therapeutic value in many cases. Especially has the intravenous injection of colloidal silver given exceedingly gratifying results. The effect of inunctions or rectal administration while still beneficial are less striking.

Loebl (*Wiener Klin. Woch.*, October 29, 1903) finds after the use of colloidal silver, 0.15 to 0.3 grams, in septic infections the results are urprisingly good and incites to further trial. Such distinguished

authorities as Schlesinger and Frank agree that it is the best method of treating septicemia.

How does it act?

Bamberger (*Berliner Klin. Woch.*, August 24, 1903) attempted to elucidate the manner in which colloidal silver acts. Créde asserted that it acts as a pure bactericide, but Bamberger showed that it had only an inhibitive effect on growths of bacteria. He also demonstrated that the silver in the blood is precipitated and taken up by the leukocytes. The intravenous injection markedly increased the number of the leukocytes, the eosinophiles and the lymphocytes.

The injections must, therefore, be regarded as an introduction of finely-divided particles of silver. Siebel's experiments show that the leukocytes are concerned in carrying off this silver and new leukocytes replace the old. The silver stimulates the activity of leukocytes.

Another explanation is hidden under the mystery of the catalytic action of silver, but how such catalysis aids in overcoming infections is unknown. In abscesses the silver-laden leukocytes may also directly inhibit the growth of bacteria.

While all these experiments have been made with colloidal silver there seems no special reason why ordinary soluble silver salts should not have a similar action. Why can not silver nitrate, for instance, replace finely-divided or so-called soluble silver?

Probably it can. At a recent meeting of the Johns Hopkins Medical Society, Hume pointed out that silver nitrate has the effect of producing leukocytosis, and suggests that it does this by destroying blood corpuscles and setting antibodies free.

Hume used 500 cc. of a 1 to 10,000 solution of silver nitrate, which was injected intravenously at a temperature of 110°. A chill, rise in temperature, marked drop in leukocytes, followed by profuse sweating were the phenomena observed in all cases. This method of treatment was tried in several cases of severe septicemias which appeared to be almost hopeless, and yet all recovered. Hume is enthusiastic over this method of treatment, and knows that it gives practical results whatever its mode of action.

EDITORIAL COMMENT.

The Proprietary Medicine Manufacturer and Medical Journalism.

We take great pleasure in congratulating the editor of the *Medical World* on his splendid fight against some unscrupulous actions of certain proprietary medicine manufacturers. There is much good work to be done in this field and all medical journals published in the interest of the medical profession should polish and sharpen their editorial arms and enter this conflict.

In the first place the fight must be waged against medical journals whose sole reason for existence is to advertise certain proprietary medicines. There are many such in this country. many of them however, are recognized as advertising organs. But there are a few which pose as first class medical journals and cater to the goodwill of the medical profession, and yet there editorials are constantly charged with a nauseating eulogy of certain proprietary medicines. No exact scientific experiments are recorded, but certain preparations are extolled in just the same way that Peruna or Hostetter's Bitters are advertised in their respective almanacs.

It is these medical journals which have done the most harm in discrediting all honest efforts to promote scientific pharmacology. Unquestionably the modern manufacturing chemist has done much to improve medicines, and a perfectly honest and harmonious action between medical journals and such manufacturers may contribute enormously to the advance of therapeutics. But the fact that there are so many selfish and unscrupulous medical advertising in the scientific columns of medical journals acts as a continued barrier to all pharmacal investigations.

The Place of Proprietary Medicines in Medical Journals.

The great distrust of the motives of pharmaceutical manufacturers which has become very much increased in the last few years has engendered a distrust to all medical publications which permit any mention of a proprietary medicine in their scientific columns. Hence, it has become a well-established principle with all journals, published in

the interest of the profession, to exclude all mention of these preparations from its medical pages. The place reserved for them are the advertising pages and under no conditions should they be allowed to creep into that part of the journal devoted to the general medical progress. This rule should hold good not only for certain "mixtures," but also for all the recent synthetic products, since, with a few exceptions, it is by no means clear that these chemicals, manufactured by a patented process and sold under a copyrighted name, are superior to many of the elegant mixtures and solutions of standard drugs.

True, scientific experiments on all these preparations should be recorded, but the original report should be most carefully written and its publication left to journals who devote their columns entirely to experimental therapeutics, and not in our practical journals. Only then, when it has been clearly shown that a certain proprietary medicine is a definite advance and can be replaced by nothing else is it permissible (with apologies) to print the copyrighted name in the editorial pages of a journal.

The Therapeutic Potency of a Name.

The gullibility of the physician is proverbial, and this weakness has been seized upon by business men and they make money out of it. Such potent drugs as quinin, acetanilid, digitalis, ergot, phosphorus, etc., are prepared by the addition of other drugs, many of them inert, and a special (copyright) name is attached and immediately the new preparation possesses marked therapeutic advantages. The physician, on the recommendation of a magazine article written by an obscure author, immediately prefers the more expensive drug with the high-sounding title, has his patients pay ten prices for it, and tries to flatter himself that he is using up-to-date medication.

Never has homeopathy by trituration and agitation obtained such powerful potencies as has been conferred on simple chemicals by high-sounding names. The adherence to mysticism are still numerous in the medical profession and the adept business man magnificently succeeds in humbugging the friend of mankind.

Advertising Proprietary Drugs to the Laity.

Another evil of the greedy manufacturing chemist is to advertise

his preparation to the people in general as soon as he has succeeded in grafting his *materia medica* on the stock used by the practitioners. Possibly he owes his whole success to the efforts and experience of physicians; at any rate, he has learned their therapeutic indications from them, and he eagerly places this dangerous knowledge in every household, hoping thereby to increase his sales. There should be united effort on the part of physicians to stamp out the evil. Such a proprietary drug should be treated with the contempt it deserves, as any other patent medicine. Its use should be generally discouraged. The family physician should make a bitter face when told that in his absence Dosem's Febrifuge had been administered, and point out the danger of such practice. And he will succeed, for familiarity breeds contempt very quickly when it concerns therapeutic means.

The Synthetic Drugs.

We must again emphasize the evil that has been done the therapeutic progress by the wholesale importation and manufacture of synthetic compounds, many of which are extolled and widely recommended on too flimsy experiments. We must warn our readers not to continue a life-long experimentation of new preparations, but to be slow to discontinue the use of old and well-tried remedies. The success of a remedy is invariably published, but who records or publishes failures? Years may pass before an error made in experimental therapeutics will cease to do harm. There should be a greater zeal in publishing untoward effects of drugs, but a still greater care in interpreting favorable results.

Attack on Behring's Dicta.

We have previously reviewed the revolutionary assertions concerning the mode of transmission and the avenues of entrance of the tubercle bacillus. Briefly to reiterate, Behring declared that the usual mode of transmission is the milk, that the initial infection almost always occurs in infancy and the bacilli enter the organism through the mucous membrane of the alimentary canal.

This position has been ably attacked by Flügge, but especially by Cornet. Flügge (*Deutscher Med. Woch.*, February 18, 1904) calls at-

tention to the experimental work of Paul on rabbits which conclusively proved the danger of inhaling tubercle bacilli, and whatever way they penetrate the organism from the standpoint of the hygienist it must be considered dangerous. He questions very forcibly the assertion that tuberculosis is usually acquired in infancy and has nothing favorable to say in regard to the addition of formaldehyd to milk. For, the preservation of some few antibodies in the milk has probably only a theoretic interest, while it is probable from the experiments of several English authors that the addition of this antiseptic is harmful. Then formaldehyd does not kill the pathogenic bacteria in the strength employed.

Cornet's Vigorous Reply.

A reply to Behring which shows unusual vigor and in which even the most exacting critic can find no fault is by Cornet (*Munch. Med. Woch.*, March 15, 1904). In the first place, he proves by statistics that the incidence of tuberculosis gradually increases until the age of 65 years. This is perfectly in accord with the theory of inhalation tuberculosis. The alleged latency of tuberculosis without local lesion is vigorously denied. From all his studies Cornet declares positively that it is possible, from the pathologico-anatomical findings to determine the original lesion in cases of tuberculosis.

He denies that the occurrence of cervical and bronchial lymphadenitis, when the tubercle bacillus is fed, points to the general dissemination, then local infection of the tubercle bacillus. From his experiments (on 4,000 animals) he finds a distinct difference in the lesions of inhalation and feeding tuberculosis, and it is more rational to assume that the bronchial and cervical nodes were infected from bacilli entering through the mucous membrane of the mouth and throat.

In short, Cornet completely overthrows the famous dicta of Behring. His masterly article should be read by all students of tuberculosis.

MEDICAL RESEARCH.

**Review of Progress in Physiology, Physiological Chemistry,
and Experimental Medicine.**

In Charge of A. S. BLEYER, M.D.

Subcortical Expressive Reflexes.

Woodworth reports some experiments to demonstrate the fact that physical expressions denoting what are known to be the result of mental processes can also be the result of mechanical and chemical stimuli to centers outside the brain.

This was observed in the decerebrated cat, where such expressions as those depicting pain or anger were produced. The "ether-cry" was manifest in the decerebrated animals which shows quite clearly that such expressions as these do not require an organ of consciousness for their production, but are, after all, most often primarily subcortical reflexes.

[NOTE.—We have many examples of subcortical reflexes about us, but have grown accustomed to the vague term "subjective consciousness," which has not yet been wiped out, but the above data will furnish a much longed for limitation for the worn out term.]

Inheritance.

An important note on the structural variations evolved in animal forms has been made to the Society of Experimental Biology of New York, by Crampton.

The observation referred to the rôle of the sexual energies in eliminating the physically unfit. The test is being made with moths.

It was found that diminished sexual ardor was manifest in only a fairly distinct group - a group which was distinguished by the stamp of certain physical deviations. In other words, non-mating moths were, as a rule, structurally anomalous.

Certain anomalous forms did not survive even as pupas but died prior to metamorphosis.

This suggests the fact that the basis for selective elimination is to be sought in correlation between the various structures, so that we find degenerates and deviates falling into the non mating group.

It is the purpose of sexual selection to rid the species of deviates by according to such deviates an imperfect, diminished or missing reproductive instinct.

[NOTE.—This law is subject to the broadest variations in the more complex organisms and, although it preserves a suggestion of its existence, it loses its exactness. There is no discrediting its basic nature, however, in all animal forms:]

The N-Rays.

Reference has been made before in this department to the physiologic light rays discovered sometime since by Blondlot, and additional data has recently been made by Charpentier on their origin. That the human organism produces these rays seems to be a certainty and the earlier belief that they were sun's rays stored up and transmitted by the medium of the living body has been discarded.

The above investigator finds, furthermore, that the N-rays are not peculiar to the human species alone, but emanate as well from the bodies of laboratory animals, such as rabbits, frogs, etc. The rays are the result of physiologic activity of tissue, particularly nervous and muscular tissue, and have absolutely no dependence on or association with thermic radiations, or foreign elevations of temperature. This was demonstrated by the fact that in the poikilothermal animal, such as the frog, the refrigeration of the body does not influence to any marked degree the emission of the rays.

Another important finding lies in the capacity of these rays to activate the natural phosphorescence of living organisms as well as radioactive and phosphorescent metals and solutions. In this way microbic colonies are made to phosphoresce.

The contraction of a muscle which always determines an augmentation of the physiologic ray emanations is not accompanied by any such phenomenon from the tendons except at the point of their bony insertions, which demonstrates the richness of these points in nerve filaments, particularly in terminal filaments.

The activity of a nerve center is accompanied by a particularly intense emission of the N-rays. This is demonstrated by the appearance of increased luminescence over the cervical portion of the spinal cord, when the subject puts into motion the upper extremities. After the same manner, the center of Broca emits the emanations when the subject speaks, first in a low and then a high voice. The other cen-

ters, such as for writing, etc., produce less definite results.—*Le Prog. Med.*, January 9, 1904.

Another observer has determined a periodic oscillation of the radiations issuing from the medulla, coincident with automatic respiration. This lends added weight to the reasonable supposition that the automatic center for respiration resides in the bulb.

DIAGNOSTICS.

In Charge of W. L. JOHNSON, M.D.

A New Symptom of Rachitis.

Neurath (*Wiener Klin. Woch.*, 23, 1903) describes a symptom of rachitis which he has observed in a large number of cases. It consists in a peculiar formation of the joints of the fingers, which results in a characteristic contour of the fingers. There is a spindle-shaped thickening of the phalanges at the middle portion, while the ends are of the normal size. The dorsal sides are more prominent than the volar. The profile view of the hand shows the enlargements to the best advantage.—*Pacific Med. Jour.*

Method of Examining the Stools for Gallstones, Etc.

Lilienthal (*Med. Record*) says straining a foul stool by the methods ordinarily in use is a task so distasteful to most persons that unless it is performed by the physician himself it is apt to be shirked or carried out in a careless and inefficient manner. Yet the conscientious search for foreign bodies in the feces may be of enormous importance in arriving at a diagnosis. For a number of years I have employed a method which is far less disgusting than any other with which I am acquainted, while it is so accurate that even the smallest solid particles can not be overlooked. The examination is easily made by the nurse or even by the patient.

Take a loop of telegraph wire a few inches greater in diameter than the entire top of the closet seat, and fasten to this a bag of at least two thicknesses of dressing gauze or mosquito netting. The bag may be sewn to the wire or simply held by safety pins, but it should be made very full, so that when the hoop is in place the wire shall be well below the level of the seat and out of the way, while the bag shall

hang down into the water at the bottom of the bowl. If the patient is not confined to bed he defecates into the closet, and then simply opens the water valve often enough to wash away all soluble and amorphous matter, while solid bodies will be left in the bag. If the patient is confined to bed, the stool must, of course, be carried to the closet, is best not to put paper in with the stool. In rural districts where there may be no plumbing the same procedure may be followed, except that the water must be carried to the privy and poured through by hand.

The principal advantage of this method, especially in city practice is that the patient himself may be trusted to make an absolutely accurate examination. I have been able to confirm a diagnosis of cholelithiasis from tiny faceted stones considerably smaller than a mustard seed, which were discovered in the stools by the patient.

Myelopathic Albumosuria.

Bradshaw (*Lancet*) describes a new disease named myelopathic albumosuria. He points out that, when it has been established that two morbid entities have been included under a common designation, it is usual to regard one of them as a new disease and to mark its individuality by labeling it with a new name. About twelve years ago a case was studied which afterward proved by necropsy to be one of multiple myeloma. In the urine of this patient a peculiar body was found chemically allied to albumin and known as Bence Jones' albumose. At a still later date it was shown that not all the cases of multiple myeloma were accompanied with albumosuria, and the author applies the term myelopathic albumosuria to a condition in which albumose is present in the urine and in which affection of the marrow exists. He has collected about twenty cases from personal observation and from the literature. Little is known in regard to its etiology. It is common in the second half of life and has been met with more often in males than in females. The changes in the skeleton found in these cases consist in invasion of certain bones by a soft mass of new growth, the proper osseous tissue undergoing absorption. F. considers the condition of the urine pathognomonic of this disease. It contains a proteid closely resembling albumin, but it differs in certain particulars.

1. It coagulates at a remarkably low temperature, viz., 52°C.

2. The coagulum is to a great extent dissolved at the boiling-point and reappears on cooling.

3. The coagulum which forms on treatment with cold nitric acid also dissolves on boiling and returns on cooling.

4. It is readily coagulated by hydrochloric acid.

He also describes the symptoms, prognosis, the chemistry and pathology.

A Sign of Aneurism.

The sign discussed by Dorendorf (*Deut. Med. Woch.*) is the absence of the groove above the left clavicle—the groove indeed, often being replaced by a prominence; at the same time, the left external jugular is often much fuller than the right. Pressure from above downward temporarily overcomes the swelling. The prominence is due to obstruction to the onflow of the blood in the veins emptying into the left innominate vein. Mediastinal tumors also cause this symptom, but it is more likely to be bilateral; the prominence may likewise be seen in emphysema of the lungs, but this is unilateral only with extreme rarity.

Abdominal Pain.

With the limitations that must be placed on all subjective symptoms, Musser (*Am. Med.*, March 26, 1904) considers pain as the one which more than all others leads to the recognition and localization of disease within the abdomen. No more valuable indication of occurrence of irritation or inflammation exists than the spasm of muscles, related by nerve supply to the organic lesion which causes the pain, as indicated by resistance.

Its absence may be due to :

1. Absence of muscle or where the latter is atrophied.
2. Onset of toxemia.

A rapidly lessening resistance with the slightest evidence of advancing toxemia, as indicated by the expression, the tongue, the pulse rate, the mental condition, even though the temperature falls, is of grave significance.

If hyperalgesia exists and then disappears, as may also the spasm and pain, the change is of ill omen unless all other symptoms subside.

The absence of, or rather the disappearance of hyperalgesia means the occurrence of gangrene or perforation.

The pain may be due to lead-poisoning as noted by Janeway. The author emphasizes the fact that the pain may be due only to uremia. He disclaims against the accepted ideas of the frequency of abdominal pain due to hysteria and the neuroses. In our ignorance we take refuge under the cloak of hysteria.

Abdominal pain may be due to extra-abdominal causes. Thus we have pain due:

1. Crises of locomotor ataxia and other organic spinal cord diseases.
2. Spondylitis rhezomalique.
3. Caries of the vertebræ.
4. Cancer of the vertebra.
5. Aneurism of the thoracic aorta, especially located above diaphragm.
6. Diaphragmatic pleursy and rheumatism of the diaphragm.
7. Pulmonary affections, especially pneumonia.
8. Cardiac affections.

The pain may be due to:

1. Gastric affections—that due to ulcer, and that due to carcinoma are well known. Special attention is drawn to that due to pyloric stenosis, pyloric spasm, gastric ptosis, hyperchlorhydria and gastralgia due to organic spinal disease.

Mention is made of the fact that pain may be due to the presence of epigastric hernia.

2. Hepatic pain.
3. Renal pain.
4. Pancreatic pain.

Musser is confident that with breadth of view, nicety of observation, and eternal vigilance, the true significance of abdominal pain can be appreciated, human suffering assuaged, and fortunately more often than formerly, life saved.

The cessation of the abdominal pain must not lull us into false safety. If pain disappears suddenly there must be gradual, but prompt amelioration of all general and local symptoms if the patient is safe.

Pain due to gangrene is seen in appedicitis. To exclude gangrene—when the pain subsides—we must observe if the pulse-rate fall, the temperature fall, the expression improve, the tongue become moist, and the mind perfectly clear.

If pain subsides because of the toxemia its subsidence is more gradual, we must, therefore, appreciate the very slightest suggestive indication of cardiac, respiratory, or cerebral action, in the temperature, the condition of the skin, and the expression.

A low white blood-cell can not, without improvement in symptoms, and especially of the general symptoms due to toxemia—is very grave.

The absence of pain in cases in which the other symptoms of obstruction of the bowel prevail is an indication that such obstruction is due to paralysis from overdistention, from inhibition of nerve influences or from thrombosis on account of which the blood-supply is cut off.

THERAPEUTICS.

In Charge of PHILIP NEWCOMB, M.D.

Forced Feeding.

Bornstein (*Munch. Med. Woch.*, 1, 51) raises a question as to the suitability in many cases of the Weir Mitchell method of absolute rest with forced feeding, and thinks that this procedure is indicated only in cases of extreme emaciation, in neurasthenia, and in cases of wandering kidney, in which a support of fatty tissue is required for the movable organ. In many instances the author ascribes the failure of this form of treatment to absence of exercise. The increase in food consumption should be accomplished by an increase in exercise in order to render the cells able to care for the accumulating material. His researches in the process of metabolism have convinced him that albumin only is required by the cells and that they must be stimulated by exercise in order to utilize the supply furnished and to thus replace the worn-out cellular constituents with active elements. Meat is not to be considered suitable for this purpose since an over supply predisposes to gout, but casein albumin may be supplied in some such form as nutrose, plasmon, sanatogen, or as fresh cheese, eggs and buttermilk. The albumin is supplemented by iron and quinin pills with light physical exercise, the patient thus retaining his freedom and avoiding the disagreeable features of an excessive fattening process. With the exceptions noted the above procedure is considered amply sufficient in all cases where the bodily nutrition is at fault.

Marmorek's Antituberculous Serum.

Turner (*Therap. Gaz.*, XXVIII, 1.) describes the preparation and recent experiments with Marmorek's antituberculous serum, reported by the latter to the Academie de Medicine during last November. Bacilli were cultivated in series in a mixture of veal serum and bouillon, approximating as closely as possible the medium furnished by the human body, until finally a culture was obtained which contained no tuberculin but a toxin which was poisonous for small animals and which was injected into the horse from whom a serum was obtained. This serum did not seem to produce any ill effects upon animals, and in the case of guinea pigs, inoculated with Koch's microbes it was found that the progress of the disease was checked by means of this serum while other control animals untreated died from the infection. Marmorek, from work in the Paris hospitals, that in meningitis of tuberculous origin his serum gave negative results; were inconstant, although no deleterious effects were observed and no elevation of temperature followed the injections, on the other hand, in six out of seven tubercular pleurisies the effusion diminished after the injection and some improvement seemed to follow. In tuberculosis of bones the results seemed more favorable and several cases of Pott's disease were cured even when complicated by fistulæ, abscesses, intestinal perforation and paresis of the lower limbs. Likewise nodules of the skin improved noticeably under this treatment, Marmorek drew the additional favorable conclusions that hectic form of fever seemed diminished by his serum and that abscesses were caused by the injections in only three cases out of two thousand.

However, the observations of others reported also to the Academie were by no means so favorable.

Dieulafoy made an adverse report on all of seven cases of pulmonary and laryngeal tuberculosis in his service at the Hotel Tien and treated with this serum under Marmorek's direction. The effect upon the fever was at least negative and one patient who was suffering from an apyretic form of the disease had a high fever after the first injections. The serum did not have a favorable effect upon the expectoration and in some instances the amount expectorated doubled and trebled after the injections. Action upon the lesions was not advantageous, adjacent ones appearing in some cases during the progress of the treatment, and in so far as general nutrition was concerned emaciation increased rapidly in several instances, Five of the seven patients have died within the past year.

Hallopeau treated seven cases of cutaneous tuberculosis by means of Marmorek's serum but the results were not only negative but actually harmful, as at the site of injection nodules formed, which suppurated, and old foci were brought to life by its use.

Monod of the Neckar Hospital used this serum in conjunction with surgical operations and hygiene and all cases showed the same improvement, while some were cured and no local or general accidents occurred.

Marmorek himself does not believe that definite judgment can yet be pronounced upon the value of this serum and in the meantime experiments are being carried out in various parts of the world to ascertain its true worth.

The Medical Aspect of Renal Decapsulation.

Tyson (*N. Y. Med. Jour.*, October 10, 1903) speaks in favor of Edebohl's decapsulation treatment of chronic nephritis under the conviction that the main obstacle to repair of the pathologic changes is an anemia or evascularity of the kidney. In chronic parenchymatous nephritis the blood is forced out of the vessels and the exudate within and around the tubules interfere with their nutrition, while in chronic interstitial nephritis the vessels are compressed or destroyed by the interstitial encroachments and nutrition is again impaired, resulting eventually in cell degeneration in both cases.

By removal of the unyielding fibrous capsule the resistance to circulation is abolished, the blood once more flows freely, secretion of urine in full amounts again becomes a possibility and by the removal of nutrition reparative processes are encouraged.

From a study of the cases of Edebahl's and others, Tyson is inclined to believe, therefore, the relief from intracapsular pressure favors the restoration of nutrition and functions and that many lives may be saved or prolonged and even cures obtained by this procedure in cases where ordinary medical means have been exhausted but in which the disease has not progressed too far.

Secondly, he considers cases of parenchymatous nephritis more amenable to treatment than the interstitial variety, since, in the former, there is less of actual destruction of vessels and obliteration of kidney tissue, while the capsule strips off easily avoiding the danger of possible laceration of the kidney substance by the operation.

Tbiralý, the least measure of success is to be expected in those cases which are complicated by extensive cardiovascular changes, since these being once established are permanent.

Hare (*Therap. Gaz*, January 15, 1904) takes issue with the above theories upon the basis that the capsule of the kidney acts as a support to the blood vessels and parenchyma under conditions of intracapsular tension and the removal can only temporarily relieve the pressure upon the Malpighian tufts and the tubules and may result in a secondary congestion from the loss of the restraining support.

Again, as to the true pathology of chronic renal disease, Delafield is quoted to the effect that changes in the kidneys which may be considered inflammatory are either exudative or productive, or both, and are at the same time associated with degenerative processes. It is difficult to understand how removal of the capsule can benefit a kidney which is at fault chiefly by reason of albuminous degeneration or other changes in the secreting tubules rather than by reason circulatory disturbances. Furthermore, a chronic obliterating endoarteritis is often found, and also other changes in the cardiovascular system, and while some pathologists are of the opinion that these changes are the result of some conditions, equally prominent authorities hold the belief that the changes in the kidneys, heart and blood vessels are parts of the same pathological process, and under this latter hypothesis no mere renal operation can be of advantage.

Guiteras (*N. Y. Med. Jour.*, November 7, 14, 1903) analyzed statistics of 120 cases and makes the statement that recoverys occur and the patients enjoy perfect health for months or years after operation. His report gives 16 per cent of cases and 40 per cent improved, but Hare points out that is doubtful if all cases were those of true chronic nephritis, and again, that in chronic interstitial nephritis patients often live for years, not yielding rapidly to this disease as is the case in the parenchymatous variety, and that hence, the preservation of life may have been a natural process rather than the result of the operation, since many of the patients showed no improvement in the character of the urine.

Again, the best results were obtained in cases where the kidney was movable and Hare takes this fact to indicate that the fixation of the kidney and the resulting readjustment of a normal renal circulation was the source of benefit rather than any effect exercised upon actual disease process in the kidney.

Finally, Hare states that until more definite data are at hand, in proof of the assertion that so general a process as nephritis can be cured by incision or removal of the kidney capsule, he deems this procedure inadvisable.

SOCIETY PROCEEDINGS.

MEDICAL SOCIETY OF CITY HOSPITAL ALUMNI.

*Meeting of February 4, 1904; Dr. Charles Shattinger,
President, in the Chair.*

Dr. JOHN YOUNG BROWN presented two cases that had been operated on for

Strangulated Hernia.

One was brought into the hospital January 6, at 3:45 p.m. It was a strangulated femoral hernia on the left side. The neck of the sac acutely flexed, making it difficult to tell whether the hernia was a femoral one or not. It had been down thirty-three hours when the patient was admitted to the hospital. Patient was 54 years of age and had had hernia for eight years. She gave a history of the hernia having come down while she was straining at stool; it was parallel with the inguinal canal but on making the incision it was discovered that it was a femoral hernia and about eight inches of gangrenous bowel was found. He made a free incision, resected about ten inches of bowel and made an anastomosis with the Murphy button; the result of the operation was perfect. Shortly after this case there came to the hospital a negro laborer 21 years of age, who had had hernia one and a half years. This presented identically the same symptoms as the other patient. Upon opening the sac there was found a loop of the small bowel, partially gangrenous. The favorable results in the first case prompted the same treatment in this one. Through a small incision in the abdomen the bowel was reached and resected, anastomosis was made with the Murphy button, and he then did the radical Bossini operation for hernia. He passed his button on the eighth day. The patient came in with bronchitis and the strangulation in this case was probably due to the coughing; he then developed pneumonia. The bowels moved shortly after the operation.

A third case had come to the hospital on February 3. This was

a strangulated inguinal hernia, similar to the others. The doctor operated, resected twelve inches of bowel, made an anastomosis with the Murphy button and did a radical Bossini operation. The three cases were unique. This operation was recommended by Helfing but it has never been adopted. Senn said that the operation would never become popular for obvious reasons; the speaker did not know what these obvious reasons were. In the first case temperature was 100.8°, pulse 84; there was no vomiting and the patient given no morphine. These patients were without nourishment by the mouth for four or five days, being nourished entirely per rectum. The speaker stated that he rarely gave an opiate after a laparotomy; the first twenty-four hours will be stormy and there will be more or less suffering, but after that time the patient will improve or become materially worse. The beauty of the operation is that there will not be a partially denuded gut to put back into the abdomen, which is always a questionable proceeding. In these three cases the resections were clean and the buttons passed on time; it is unusual for a button to be passed in eight days. In one the operation was completed in fifty-five minutes, in one it was completed in forty minutes and in one, that of February 3d, the time required was one hour and five minutes. There were no symptoms of an unusual character. The wound in the first case is perfectly solid and healed by first intention.

Dr. J. M. BUCHANAN read a paper (see page 257, this issue) on

Splenomedullary Leukemia.

Dr. H. M. VAN HOOK presented the blood specimens from the above case.

DISCUSSION.

Dr. CARL FISCH said that although cases of leukemia were interesting, there were very few points to be discussed for the reason that knowledge of leukemia is as yet almost *nil*. Nothing is known about the etiology, nothing is known about the pathological process itself except what can be microscopically and physically demonstrated. Our whole knowledge of leukemia consists in the finding of the blood changes and of the study of the pathologic lesions which are found in the different organs of the body. There has lately been nothing added to fill up the lack of knowledge on these points, hence a scientific discussion is unsatisfactory, almost impossible. When we come to consider what we know about the so-called pathology of leukemia the

point of view that seemed to have been gained during the last ten years would appear to be incorrect, so that even the great work by Ehrlich which resulted in the differentiation between two diseases, the lymphatic and splenomedullary form, is not certain. Ehrlich bases his view on the different varieties of white blood corpuscles, not only on the difference in these cells but on the place of origin. Ehrlich believed the leukocytes were essentially different from the lymphocytes, and that all of the polynuclear cells were derived from the bone marrow.

For ten years this conception reigned supreme, but lately doubts have come up which seem to suggest that Ehrlich's differentiation between the lymphatic and polynuclear element is not to be taken with the restrictions that Ehrlich put on it. Leukemia is one of those diseases in which a doubt exists since only lately a number of cases have been reported in which the blood contained not only an excess of bone marrow cells but at the same time of lymphatic elements. Ehrlich assumed that myelogenous leukemia was a disease of the bone marrow and that when in lymphatic leukemia the bone marrow was involved there had taken place a metaplasia. Other observers have stated that the spleen, although normally in man a producer of lymphocytic elements can undergo a myelogenic metaplasia. The result of these observations would make it appear that Ehrlich's division was unjustified. Clinically leukemia is characterized by an increase of the white lymphatic or polynuclear elements. It must, however, be emphasized that this increase or, as it is often expressed, the enormous leucocytosis is not the essential point, especially in the myelogenic form, but the character of the white cells found. In fact, there are cases in which the number is not increased, say over 60,000 to 80,000 to the cmm. In such a case there may be present the forms of cells usually found in the bone marrow, which are not normally found in the circulation and are probably the precursors of the polynuclear cells. In myelogenous leukemia doubts begin to arise about the difference between the so-called large mononuclear cells and those cells which are beginning to show the transition to polynuclear leucocytes. There are always a number of these in which a few fine granulations may be seen which otherwise could be called lymphocyte elements. The whole subject of leukemia is absolutely obscure and it is partly due to the fact that the conception of the origin and nature of the different

cells met with in the disease are not yet clear and are yet under discussion.

Dr. MEISENBACH said that there were a number of things that make the subject an obscure one, as the peculiarities of the blood picture and the difficulty at times in differentiating one cell from another. For instance, in this case there were cells which have been described under various terms and there were others resembling them closely; large lymphocytes whose protoplasm stains with methylen blue and showing granulations in the majority of cases. It is surprising to find that there are granules developed and that the protoplasm still stains blue, again there will be found a basophile alongside an esoinophile. Again there are the cells described by Turk that, upon being carefully observed, will show the protoplasmic region becoming colored and taking on a fine granular appearance. Again there are the cells in which a sort of granular change appears which might better be described as a reduction of the protoplasm. These cells are described by Nothnagel as types of the large lymphocyte. In relation to the origin of the two kinds of cells, according to Ehrlich, upon closely observing the large lymphocytes it will be found that in the selfsame cell there may be distinct eosinophile granulations. He had a number of such cases. He also called attention to the relation between the so-called pseudoleukemia or Hodgkin's disease and true leukemia, saying that cases have been observed where the diagnosis was made *intra vitam* of leukemia and when the case came to post-mortem the findings showed Hodgkin's disease, there being the development of large foreign white bodies and hypertrophy of the lymph follicles in the spleen. In some of these cases there was irritation of one part of the blood-making system and not of another.

Dr. BEHRENS said that he had found it almost impossible to get the satisfactory blood smears between the slides, that the red blood corpuscles always seemed to fall into a conglomerate mass; he said he would like to know if this was due to the condition of the cell lining leukemia. He had found that there appeared to be a tendency toward a rupture of the red blood corpuscles on slightest pressure; he had found difficulty in staining even the red blood corpuscles neatly.

Dr. CLARENCE LOEB said he had examined the fundi and thought they were not distinctly characteristic of leukemia; the blood vessels were not as tortuous nor as distinct in showing the white striations usually found on them in leukemia. Far out in the periphery the

fundi had a muddled aspect which might have been caused by a more or less recent hemorrhage, but resembled rather the lesions of a retino-choroiditis diffusa. The color of the fundi was redder than normally fund in leukemia, and the discs were not as pale; the macula area was not affected, nor were the lids.

Dr. FISCH replied that he did not know what trouble Dr. Behrens could have had in mounting the specimens, for there was nothing in the character of the blood to make the smearing of the specimens different from any other; on the contrary, if the smears are spread out properly under the cover glass they are invariably beautiful; it is a general experience that the red blood corpuscles in myelogenous leukemia very often do not undergo any retrogressive changes whatever; the presence of myelocytes can have no influence.

Dr. MEISENBACH related his experience in a case where the diagnosis lay between Hodgkin's disease and a severe lymphatic infection and was dependant upon a blood count: he made the count and found about 70,000 white blood corpuscles, of these about 70 per cent were lymphocytes, chiefly of the large type. In the red blood count he found that the corpuscles had fused; he had left the blood standing about 15 minutes and thought that was the cause; then he made another specimen, took it down immediately and found again that he was unable to count them, there were groups of four to a dozen corpuscles, so fused that he could not count them; he thought he must have made a mistake in getting his solution, so he had a fresh solution prepared and in the afternoon made two more attempts, failing each time. This was a case of acute lymphatic leukemia and the patient died four or five days later. He had a pulse of 120 to 160, there was intense weakness, the adenoid tissue of the pharynx somewhat hypertrophic, tonsils not particularly enlarged but at the base there was an increase of the tissue; it has been suggested that perhaps a lytic process develops in the blood, but this is merely a suggestion.

He said that though Turk has quite a number of such cases in his clinics, he does not relate any instance of such a condition. Lazarus, of Berlin, also fails to mention it. The speaker said he had no knowledge of anything bearing on the subject.

Dr. FISCH remarked that the observation made by the previous speaker was probably due to the normal agglutination of the corpuscles which is common in leukemia; they agglutinate much more readily than in normal blood.

*Meeting of February 18, 1904; Dr. Charles Shattinger,
President, in the Chair.*

Dr. KIRCHNER reported a case (see page 264, this issue) and presented specimen of

Acute Osteomyelitis of the Femur.

Dr. PFEIFFENBERGER read a paper (see page 260, this issue) on

Ligation of the Common Carotid Artery.

DISCUSSION.

Dr. HOGE said that he could not account for some of the symptoms but believed most of them to have been due to the withdrawal of the blood supply. Hemiplegia is one of the results to be expected where the common carotid has been ligated; the re-establishment of the circulation through the circle of Willis is not immediate, the respiration is sometimes more vigorous on the paralyzed side.

Dr. CAMPBELL agreed with the essayist in his statement that the cerebral symptoms were due to the cutting off of the blood supply; their prominence was probably due to some slight clotting; it would be interesting to see how the man recovered, whether, as he gradually improved, the arm and leg became spastic or not; the hemisweating might have been of a sympathetic character; the absence of aphasia was interesting, showing possibly not a complete involvement; the symptoms were probably produced by a mixture of causes; the hemiplegia may have been due merely to the anemia, while some of the more prominent symptoms may have been due to thrombosis.

Dr. BLISS, referring to Dr. Campbell's remarks relative to the Babinski reflex, mentioned a case he had seen in the City Hospital recently; the man was brought in unconscious; Examination seemed to reveal the fact that he had a partial hemiplegia; in the post-mortem no brain lesion was found; they knew that he was uremic, and thought possibly there had been a hemorrhage in connection with the uremia; the Babinski reflex was fairly well marked on the right side.

Dr. PFEIFFENBERGER, replying to a question asked by the President, said that he had not noticed any vasomotor phenomena and that there was no flushing of the face. In reply to a second question by the President he said that the sweating was on the right side, the wound on the left. He added that he had recently phoned the physi-

cian now having the case in charge and had been told the patient can now move the foot and leg, but with some difficulty, and still has motor paralysis on that side.

The PRESIDENT said that the wound being on the left side and the sweating on the right, the injury to the sympathetic could hardly be responsible for it; the more probably, sudden anemia proved, as it often does to the automatic centers, a temporary stimulus, just as sudden suffocation does by shutting off oxygen and paralysis follows later. This view would seem to fit the case, as it accounts for the fact that the sweating occurred so early.

Dr. HOGE said that the discussion had reminded him of a case of paraplegia in which there was profuse sweating of both legs; the paralysis was both motor and sensory, the latter the more pronounced.

Dr. PFEIFFENBERGER, in closing, said that he not attempted to know definitely whether or not the hemihidrosis was produced by the sensory paralysis; he thought, however, that the explanation offered was a very satisfactory one.

Dr. CAMPBELL read a paper (see page 266, this issue) on

Recent Therapy in Epilepsy.

DISCUSSION.

Dr. SCHWAB had expect that essayist would give an account of the literature on the subject. He stated that he had been much interested in this method it first came to his attention about three years ago, had recently learned that the salt starvation method was suggested about thirty years ago. In Gower's text book there is a suggestion that salt be taken away but without the suggestion that it be replaced by sodium bromid; the new thing about this method is that the sodium bromid is taken with the food. Some of the French investigators suggest cooking the bromid in the food itself. When the first paper by Toulonse and Richet came out in 1901, the speaker put a case on the salt starvation treatment; this patient has been under observation for about three years. The patient is a boy, age 11 years and the results have been enouraging. The speaker said his experience was limited for the reason that the number of cases to be put on this method are extremely few. He mentioned the case of a rather anemic boy whom he had on the salt starvation treatment; in this case the attacks had been reduced from three or four a week to one or two a

month, but the boy's physical condition is a great deal worse than it ever was; he tried the treatment for several weeks and then, on account of the symptoms manifested, stopped the treatment, gave the boy milk, etc. The boy was then getting about 40 grains of bromid a day; the speaker said that he did not then know that the toxic effect is increased by the withdrawal of salt. The boy at this time was really suffering from bromid intoxication produced by 40 grains a day; the dose was reduced to about 15 grains a day, with divided doses, as suggested by the essayist, and the attacks have practically ceased. but the physical condition is undoubtedly worse and the mental condition is practically so. In withdrawing the NaCl there is taken away from the individual something essential for his metabolism. He mentioned another case, that of a girl, aged 10 years. He had the stomach contents examined after a test breakfast and found no HCl; a second examination made a few days later showed a marked decrease in the HCl in the stomach contents. He was not altogether certain that the HCl was derived the NaCl in the food, but this may account for some of the pronounced digestive disturbances. Again, the blood needs a certain amount of chlorin and when the chlorin is withdrawn it will possibly affect the physiologic condition of the blood. This method, in fact, has a great many disadvantages and it is only by keeping a case under watch a long time that one becomes aware of these. The German investigators take ten or twenty epileptics and put them on salt starvation treatment for three or four or five weeks, then give them three or four or five weeks' rest and write up the results. What is needed is a permanent investigation lasting over a period of two or three years. There are no reports of a test extending over that period. It is a strange fact that the men who are considered authorities on epilepsy in this country, the directors of the colonies for epileptics, have not taken this up at all. Spratling and the men of that type apparently do not think it of any practicability. He said he had had about ten cases that he put on the salt starvation treatment and six or seven had been restricted for six or seven months to two years, and in all of those cases he had been able to reduce the number of attacks in a remarkable way, but he was not satisfied with the physical or mental condition. The epileptic attacks seemed to serve a useful purpose and when the number of attacks were reduced the result was not what was looked for; if the attacks are due to the toxins in the body which lead a certain explosion, stopping the attacks does not

stop the epilepsy, in other words, these attacks are only a symptom. He said that the following report was made in some of his cases. They will say that the patient has gone two or three months without a convulsive attack but has had a light attack that began in the usual way and then stopped. Now, this is an attack and must be considered as such, otherwise the report of results will be more optimistic than is justified. The speaker said that there was now on sale in Paris a bread called Bromo pan, in which sodium bromid is used in place of salt; this bread can be bought and prescribed just as diabetic bread can be bought in this country. He had the mother of his patients prepare a number of loaves of bread in this way, some with sodium bromid and some without; he had demonstrated this at one of his clinics and it could not be distinguished from bread prepared in the usual manner; that without the sodium bromid tastes like Italian bread. He said that he had adopted practically the same method as the essayist in his method of administration of sodium bromid, although he had known nothing about Dr. Campbell's method. He had bought a green salt cellar, in which the sodium bromid will not dequesce, but he believed Dr. Campbell's method was superior, as it permitted more accurate measurement, and considered the subject one of tremendous interest. In treating epilepsy one is not treating epilepsy but an epileptic individual; no two are alike, each case must be handled differently, and for this reason he said that he was rather opposed to the categorical method of method of giving bromid as mentioned by the essayist; it can not be given according to any sign or symptom, as, for instance, the knee-jerk; some one has said that the only way is to feed the patients on bromid as you would give them food. The speaker said he had known patients treated in this way to take as much as a 150 grains a day of potassium bromid and the results were anything but gratifying, the patients showing the usual symptoms of intoxication, and he had to stop and give smaller doses; a man must plan his therapy according to his case. As to pupillary reaction, after reading Dr. Campbell's paper some time ago he said that he tried it to see what he could get out of it. A patient would come to him a few hours after having a fit and his pupil would not react; in another case the pupils were entirely different following an attack than at other times and the size of the pupil would seem to render this method very unsatisfactory. It all comes down to the purely personal question: What can be done with our epileptics?

Every man who has studied epilepsy has a right to talk of his experience, but he did believe any set of rules could be made at present; for instance, a method had been suggested to him by Dr. Fry, who said that he had used satisfactorily large doses of *solanum carolinense*, the common horse-nettle. He had obtained a quantity of the drug and at the first opportunity and gave it a patient having three or four attacks a week, he began with 50 drops and increased the dose to 1 dram three or four times a day; the patient misread the directions and later went to him complaining of feeling dizzy, having attacks of vomiting, etc., and said that he had been taking 2 drams four times a day, yet the drug had not had the slightest effect in reducing the number of attacks. Most of the remedies so highly praised are tried and the results are no better than in this case, and the physician must fall back on the bromids.

Dr. BLISS said that he would like to know the effects of accommodation on the pupil whether it would be possible to eliminate the change produced by the effort at accommodation.

Dr. HOGG said that the subject of epilepsy was always an interesting one from the fact that there is so little known of it and it can not be expected that the treatment will be wholly satisfactory until more is known about the pathology than at present. The bromid treatment is the one which has given most satisfactory results, yet it is only palliative. About all that can be done is to reduce the number of attacks and get some general improvement, possibly, in the patient's general condition. As Dr. Campbell had said, the speaker stated that the special modification of the treatment was applicable to a particular class only; his experience had not been unsatisfactory, however; he had used it some cases without withholding the sodium chlorid and in others he thought he got a better effect by withholding NaCl. In withholding sodium chlorid, however, he said that he did not deprive the patient of it altogether; in a mixed diet the patient received about the amount of salt that he requires. In the cases mentioned by Dr. Schwab where the patients did not get along so well, he thought he would look for some other cause; it has been demonstrated, however, that during the administration of sodium bromid HCl in the gastric juice may be partly replaced by hydrobromic acid. The bromid treatment should be considered as only supplementary and attention should be largely directed to the general condition of the patient. There is a degenerative and toxic element in the disease and methods that tend to reduce

the toxicity will give good results. In these attacks there also seems to be a certain degree of habit and the good effect of bromin is partly due, probably, to its effect in overcoming this force of habit by reducing the number of attacks, thus reducing whatever influence habit may have in the causation of these attacks.

Dr. GREEN, JR., referring to the pupillometers drawn by Dr. Campbell on the blackboard, stated that measurements of the diameter of the pupil were at best only approximate. A convenient instrument and one at the same time measurably accurate consists of a disk of German silver containing a series of circular apertures ranging from 0.5 to 10 mm. in diameter; the disk is mounted on a dull background, in order to reproduce as nearly as possible the condition under which the pupil is normally viewed; and the various openings in the disk are compared with pupil, and that one selected which corresponds most nearly to the pupillary diameter. A point which should always be borne in mind is that an astigmatism of the cornea of high grade will produce an oval deformation of the pupil in a meridian corresponding to the axis of the astigmatism; under these circumstances a series of comparative measurements will only be of value if the measurements are always of the same diameter.

Dr. FALK suggested that possibly a transparent rule could be satisfactorily used in measuring the pupil; for instance, a cover glass upon which a millimeter scale is engraved would answer the purpose; this held in front of the eye would not shut off the light nor throw a shadow against the retina.

The PRESIDENT said that he knew of certain individuals in this city, not epileptics, who, by reason of peculiar opinions they hold as to dieting, abstain entirely from salt; these people are vegetarians, and those who are very strict, also abstain from milk; thus their diet contains no meat, no milk and no salt other than that which is in the food naturally, and he said that he knew of nothing to indicate that they were not as healthy as the rest of us. As Dr. Hoge had said, a mixed diet contains salt enough.

Dr. CAMPBELL, in closing, said that he had done a good deal of work in the measurement of the pupil; he had tried to get a standard for the normal pupil; he measured a number of pupils in a dark room at a fixed distance from the light and he found where the light could be properly managed that in a normal individual not taking drugs the pupil will practically be the same at all times for the same individual;

some will run 3 mm., some 2.75 mm., some 4 mm. and some 5 mm. He found that ordinary drugs did not change the pupil. For a while he would think he had some definite results and then would note that all the pupils examined ran too high on some particular day, and it would develop that on the day in question the gas pressure varied and the light flickered; the gas light was so unsatisfactory that he tried a Rochester lamp. In order to get a basis for pupillary action it is necessary to get a fixed light. He said he did not believe it had ever been investigated as to which end of spectrum most influenced the pupil; he did not know whether heat rays or the light rich in actinic rays would have the greater influence; but leaving out of consideration the quality, the mere quantity of the light is difficult to control. When the Rochester failed to give satisfaction he tried an acetylene burner and the pressure there varied. Finally, he fell back upon daylight, making the patient look at a distant object on the sky line. This left much to be desired but was practical if not very exact. In the dark room he had the light 2 meters distant from the patient when the experiment was being made, and thus eliminated accommodation effects in emmetropic eyes. One advantage of the dividers is that they eliminate the tendency everybody has to guess to the nearest mark. He said that Dr. Schwab had misunderstood him if he thought that he considered the pupil sign the only method of determining the full bromid dose; the only method is to consider the patient, not any one symptom, but he believed the measurement of the pupil the best single symptom. The constitution of the patient, digestive condition, of the tongue—whether coated or clean, and the presence of hebitude in the patient are all to be considered. The one thing to be avoided in all cases is routine treatment; the more accurately the patient can be studied as to his reaction to bromin the more exactly can he be given just enough, in just that proportion will he receive the benefit that is his due. More can be done for the patients in the early stages than for the chronic cases. Where the control of the spasms does not improve the condition of the patient, the mark has been over-shot. If the doctor is careful enough the bromid will do absolutely no harm and will, almost always exert a control of the spasms that is, at least, to the satisfaction of the patient. The treatment can be kept up indefinitely and the patient's epilepsy be thus controlled with no impairment of the general condition. The school child who has been unable to go to school will be enabled to attend school regularly and the man

unable to work will be able to go back to his work. In confirmed epilepsy probably not much more can be done than to hold down the attacks; where one has had three or four attacks a week he can usually be so treated as to have but three or four a year; much more can be done in the early stages. Epilepsy grows by epilepsy. In one who has had but few attacks the brain is not nearly so much disturbed; every attack renders the brain cortex more vulnerable to succeeding attacks, so that there is infinitely more chance of curing the cases in an early stage of the disease. As to putting the bromid into the food before it is cooked, as in bromo-pan, for instance, there is the disadvantage that the patient will eat much more one day and less the next and it is thus impossible to dose accurately. If the bromid is put on the food just before the patient eats it, and what is left over is dissolved in water, he will get the exact dose intended for him. He said that this paper reported the results of one limited aspect of the treatment of epilepsy, and he hoped to prove in a paper now in preparation based upon the entire treatment of epilepsy in fifty or more cases, that the attacks can be very greatly reduced. He has made a chart of the symptoms and condition of every patient before the treatment and another made after the patient has been under treatment for some months. In the majority of these patients salt starvation was not used. He added that he did not believe sodium bromid the only salt by any means; he had used potassium bromid in some cases and in other cases he had found a combination of potassium bromid and bromid of magnesia with the tincture of passiflora very satisfactory.

In a general way, when it takes too large a dose of any bromid to produce bromin effects, salt starvation was indicated; when bromin effects occurred without a control of the attacks a change of the bromid was indicated.

Dr. GREEN stated that a serious difficulty in making comparative pupillary measurements was in obtaining a source of illumination of uniform candle power; he was under the impression that in Germany a so-called "standard" candle was to be had which gave a uniform illumination. In answer to an objection by Dr. Campbell that the illumination from a single candle would not be sufficient he saw no reason why a number of standard candles should not be used. He desired also to point out that the accommodating *may* be active even when the patient is told to fix his gaze on a distant object, *e.g.*, incorrect hyperopia.

REPORTS ON PROGRESS.

MEDICINE.

In Charge of EDMUND A. BABLER, M.D.

Acute Lobar Pneumonia.

In an analysis of 486 cases, and 100 autopsies, McCrae, Feysche and Ainley (*Am. Med.*) found that the largest number of cases occur in the changeable spring months. Wet streets have a large share in the causation of spring pneumonia. 71.6 per cent of the cases were males. 21.2 per cent of cases admitted succumbed. The age of the patient affects the prognosis—after the 40th year the chances for recovery are gravely lessened. Of this series 12.4 per cent had suffered previous attacks. Of 462 cases, a likelihood of tuberculosis having preceded the disease was present in 60. About 16 per cent of 456 cases were Italian immigrants—the latter are considered thrice as liable to pneumonia as natives.

28.4 per of 445 patients were engaged in outdoor work. The authors believe that the outdoor workers are more frequently attacked. Average duration of disease was in 351 cases, 27.5 days.

60 per cent ended by crisis, 28 per cent by lysis. In 211 cases crisis occurred after the lapse of 7.1 days; in 106 cases of fall by lysis, the fall of temperature began after the lapse of 8.4 days. Delayed resolution in 1.9 per cent. Of 472 cases the temperature was 104° and over in 31 per cent; from 102° to 104° in 52 per cent.

Cough present at onset in all cases. Pain in 92 per cent; chilly in 70 per cent. Rusty sputum present in 44.9 per cent of 434 cases, bloody sputum in 7 cases, also nasi in 40 per cent.

Delirium present in 35 per cent of 447 cases. Convulsions occurred in children. Jaundice noted in only 3.8 per cent of 465 patients.

Urine showed albumin in 22 per cent of 450 cases.

Definite cardiac dilatation in 18 per cent of 465 cases.

In 473 cases the sight was affected in 4.8 per cent—left lung only in 30 per cent—both in 22 per cent

The treatment was symptomatic, hence quite variable. Stimulants were used frequently. One third of 163 patients had pleurisy. 4 per cent of 23 cases had meningitis.

Of the 100 autopsies 77 were males—average age was 38.8 years. The amount of lung tissue plays an important part relative to prognosis. Red hepatization present in 23 per cent and gray in 55 per cent—the gray color generally due to purulent infiltration.

Pneumococcus demonstrated in 65 per cent of 60 cases.

The assertions of the late Dr. Wyatt Johnston that the spleen was rarely enlarged in cases of infection by the pneumococcus while it was frequently enlarged in other infections, have been corroborated by the authors.

In 91 per cent pleurisy was present. Empyema in 12 per cent. Clots found in heart chambers in 42 per cent. Acute parenchymatous nephritis in 45 per cent and chronic nephritis in 32 per cent. Meningitis in 5 cases, in four of which the pneumococcus was demonstrated in the meninges.

Special note is made of:

1. The liability of immigrants to the disease.
2. The frequency with which people of out of door occupations are attacked.
3. Infrequency of the rigor of onset.
4. The nonenlargement of the spleen in most cases of pneumococcus infection.

SURGERY.

In Charge of M. G. GORIN, M.D.

Benign Cirrhosis of the Stomach.

Sheldon (*Annals of Surgery*) reports a case of Benign Cirrhosis of the stomach treated surgically with complete relief to the patient, who was operated upon eleven months previous to report of the case. The patient, a man of some 50 years of age, had suffered 15 years with stomach symptoms growing progressively worse until in the latter 3 years pain in stomach and vomiting of solids were constantly present. On opening the abdomen the stomach was found to be small, about two inches in the anteroposterior diameter and six in length. Gastroenterostomy was performed, the lower portion of the greater curvature being attached to the small intestine some sixteen inches

below pylorus. The stomach was found to be apparently normal on its external aspect, except for the diminished size. There were no adhesions to the surrounding viscera, and no changes could be detected in the pancreas or liver. On cutting into the stomach the wall was found to be 1 cm. in thickness and the consistency of fibrous tissue. The mucosa was smooth and atrophic. Three months after the operation the patient had gained thirty-six pounds in weight and experienced no trouble with his stomach whatever. It would appear from the history of the case and result of the operation that the patient suffered from a benign cirrhosis of the stomach without carcinomatous involvement, though such a condition, according to many authorities does not occur. A study of ten reported cases of this condition calls to mind the following facts regarding the pathology of the disease.

The size of the stomach, diminished in all cases, the shape remaining normal. The walls are uniformly thickened. The peritoneal and muscular coats approximately normal. Submucosa thickened indurated, and fibrous elements increased. Mucosa smooth, firm, white and atrophic. In none of these cases was evidence of carcinomatous generation found. In regard to the diagnosis the following conditions would point to a cirrhosis of the stomach:

1. Long standing disease.
2. Absence of vomiting of blood.
3. Contracted stomach.
4. Absence of tumor on palpation.
5. Absence of glandular or hepatic involvement
6. Improvement of the patient generally and relief of the stomach symptoms when rectal feeding is resorted to for a considerable period.

GYNECOLOGY.

In Charge of GEORGE GELLHORN, M.D., St. Louis.

Habitual Abortion.

Taylor (*Brit. Med. Jour.*) Among the etiologic factors of habitual abortion, syphilis is the best known. Chronic affections of the kidneys and laceration of the cervix uteri may establish the tendency to regular recurrence of abortion. Furthermore, according to

the author, intraperitoneal adhesions, particularly after appendicitis, play a conspicuous role. Of greatest importance, says the author, is the observation that very frequently the families of the father or the mother offer a history of tuberculosis. In such cases, iron and cod liver oil, for many months, may be given with advantage.

Plural Pregnancy in One Tube. The Two Ova of Different Size.

Saniter (*Zentralbl. f. Gyn.*) demonstrated this interesting specimen before the Gynecological and Obstetrical Society in Berlin. Both ectopic sacs were ruptured. The larger ovum appeared to be in the latter part of the second month and contained a fetus about 4 cm. in length; it was situated near the fimbriated end which was intact; during the operation, it had slipped through the wide rent in the tube. The second ovum was about four weeks old. It was lodged nearer the uterine end of the tube and was separated from the larger ovum by a portion of normal tube 1 to 2 cm. long. The second ectopic sac was about 3 cm. distant from the uterus. It had a small wound rent through which a bushel of chorionic villi protruded. The extirpated (right) ovary contained a large corpus luteum and a smaller corpus fibrosum. The left appendages were normal.

Treatment of Fibroids by Electricity.

Pichevin (*Semaine Gynecol.*) The optimistic anticipations of Apostoli and his school in treating uterine fibroids by electricity have not been realized. It can not be denied that a prolonged intra-uterine electrical cauterization possesses a hemostatic influence. However, Pichevin has never observed that a uterine fibroid decreased in size or disappeared altogether under the influence of the electric current. On the other hand, peri-uterine complications, sometimes of a rather serious nature, are not infrequently experienced after numerous electrical treatments. Now that operation offers the most excellent results, electrical treatment for fibroids is no longer justified. It may be applied only in those exceptional cases in which the patients have, by persistent hemorrhages, been weakened to such a degree that they can not stand the shock of a major operation.

BIOGRAPHICAL SKETCHES.

DR. M. L. LINTON.

Dr. Linton was closely associated with Dr. Page in his medical career, and was especially distinguished as a teacher.

He was a native of Kentucky and his early advantages were very limited. By his great energy and industry he obtained a good education, and finished his medical studies in Paris and Edinburgh. He first practiced in Kentucky, but in 1843 removed to St. Louis where he soon gained a good practice. A Professorship in the Medical Department of St. Louis University was accepted by him, which position in the St. Louis Medical College he held during the rest of his life.

It is reported that he was quite a philosopher and took delight in writing poetry. In politics he took an active interest, and was a member of several political conventions.

Physically, Dr. Linton was below the average, he having been almost an invalid for more than half of his life; yet his mental faculties were always keen, and at times even brilliant. He was a good speaker and in wit and repartee unexcelled.

DR. ABRAM LITTON.

Dr. Litton was born in Dublin, Ireland, May 20, 1814, and was brought to the United States by his parents when he was three years old. The family first resided in Pittsburgh and later at Nashville, Tenn. Abram received his early education in Nashville and graduated from University of Nashville in 1831 at the age of 17. Four years later he accepted the position of Professor of Mathematics and Natural Philosophy in Nashville University which position he held for three years. Then he resigned and went to Europe to perfect himself in chemistry. He studied in several places in Europe, but spent most of his time with Liebig at Giessen and Rosa at Berlin.

In 1842 he took the position as Professor of Chemistry in the St.

Louis Medical College, and was given the honorary degree of M.D. Later he was given the Chair of Chemistry in Washington University which he filled with honor for 35 years. He did much work in the geological survey of Missouri.

In his early life he had studied medicine under Dr. Lindsay, of Nashville, and he even practiced a short time, but gave it up and turned his entire attention to Chemistry and Geology.

Dr. Litton was a very modest and unassuming gentleman but very stern in his demand for truth.

He was twice married and had three children, only one whom (a daughter) is living to-day.

Arteriosclerosis.

Stengel (*Am. Med.*) considers elevation of the blood pressure are early and quite invariable symptoms of arteriosclerosis. This is recognized by—

1. Change in pulse.
- 2 Lengthening and increased heaviness of first heart sound at apex.
3. Accentuation of second heart sound over aortic area—this remains quite constant throughout the course of the disease.
4. Sphygmogram shows tendency toward an increase of what is called the tidal wave.

Stengel believes that we should be alert for the early symptoms of this disease—he considers that change of vigor, of color and various trivial evidences of reduced vitality, prominent among the early clinical symptoms that should be noted by the physician, as due to beginning arteriosclerosis.

He believes that when this disease has begun, the renal permeability is less uniform and fluctuations are out of all proportions to the conditions. Occasional or continuous slight albuminuria is as a rule significant of advanced arterial disease—not always.

Cylindroids are present in the urine before we find casts.

When the heart muscle is affected, the prominent and most important symptoms are: arrhythmia, increased force of apex impulse, and suggestions of dyspnea.

Special attention is called to the ophthalmoscopic examination as described by de Schweinitz who found thickening of the retinal arteries quite constant at an early date in cases of arteriosclerosis.

BOOK REVIEWS.

The Courier of Medicine Company will mail, postpaid, any book reviewed, on receipt of price.

Whitman's Orthopedic Surgery.

New (2d) edition. A Treatise on Orthopedic Surgery. By Royal Whitman, M.D., instructor in orthopedic surgery in the College of Physicians and Surgeons, Columbia University, New York; associate surgeon to the Hospital for Ruptured and Crippled; chief of Orthopedic Department of the Vanderbilt Clinic, etc. Thoroughly revised and much enlarged, in one octavo volume of 820 pages, with 507 engravings, mostly original. Cloth, \$5.50 net. Lea Brothers & Co., Philadelphia and New York.

The above volume is the second edition of one of the best treatise on orthopedic surgery that has as yet been published. The subject is treated not only from the practical point of view but also from the purely scientific and experimental. A large part of the work is based on original observations and experimentation; notably, certain chapters devoted to disabilities and deformities of the foot. The author is especially clear and concise when outlining methods of examination and diagnosis. An excellent description of the bloodless method of reducing congenital dislocation of the hip is given. This is illustrated by a series of photographs showing the various manipulations necessary in the reduction. Most interesting reading matter is to be found in the 228 pages devoted to a masterly discussion of the affections of the spine, and in the article on coxa vara.

Probably in no department of clinical medicine has more new work been done in recent years than in orthopedic surgery. This second edition of Whitman, while built upon the same general plan as the first, has been materially enlarged and brought up to date by the addition of nearly two hundred pages of text, introducing much valuable new matter. With few exceptions, the illustrations are remarkably distinct; sixty new ones have been added, making a total of 507. The work is something more than a mere text-book, as it includes extensive statistical data of great value.

The Practical Care of the Baby.

By Theron Wendell Kilmer, M.D., associate professor of diseases of children in the New York School of Clinical Medicine; assistant physician to the Out-Patient Department of the Babies' Hospital; attending physician to the Children's Department of the Westside German Dispensary, New York. 12mo, 158 pages, with 68 illustrations. Extra cloth, \$1.00 net. F. A. Davis Company, Philadelphia.

This little book is written in a very readable style, assuming that the mother and nurse know absolutely nothing about the care of the baby, the author takes up every phase of the care of the infant from the moment of its birth up to the sixth year. The chapter on percentage feeding is somewhat heavy for the average mother, but this is not to be wondered at when many physicians still find it difficult to figure percentage mixtures. We can indorse this book for the use of mothers and nurses.

A Manual of Hygiene and Sanitation.

By Seneca Egbert, M.D., professor of hygiene and dean of the Medico-Chirurgical College of Philadelphia; member of the Academy of Natural Sciences of Philadelphia, etc. Third edition, enlarged and thoroughly revised, in one 12mo. volume of 467 pages and 86 engravings. Cloth, \$2.25 net. Lea Brothers & Co., Philadelphia and New York.

The subject of practical sanitation is often neglected by the busy physician—much in the way of prophylaxis, control of infectious diseases, personal and public hygiene is neglected. Such a work as this should be at every man's elbow; it should be the corner-stone of the physician's work. We recommend Egbert's book very highly.

Lea's Series of Medical Epitomes.

Series edited by V. C. Pedersen, A.M., M.D. Lea Brother & Company, Philadelphia and New York.

Organic and Physiologic Chemistry; a Manual for Students and Practitioners. By Alexius McGlannan, M.D., assistant professor physiologic chemistry, College of Physicians and Surgeons, Baltimore, Md. With 9 illustrations.

This excellent compendium merits to be ranked side by side with the rest of this splendid series. It covers the ground very satisfactorily as a compendium.

Von Bergmann's Surgery.

A System of Practical Surgery. By Drs. E. von Bergmann, of Berlin, P. von Bruns, of Tübingen and J. von Mikulicz, of Breslau. Edited by William T. Bull, M.D., professor of surgery in the College of Physicians and Surgeons, Columbia University, New York. To be completed in five Imperial Octavo Volumes, containing over 4000 pages, 1600 engraving and 110 full-page plates in colors and monochrome. Sold by subscription only. Per volume, cloth, \$6.00; leather, \$7.00; half morocco, \$8.50 net. Lea Brothers & Company, Philadelphia and New York. Volume I just ready, 936 pages, 361 engravings, 18 plates.

This work is by the greatest living German surgeons and the translation is edited by one of the most distinguished surgeons of America; it will thus, without its intrinsic value, attract wide attention among physicians and surgeons. A review of the contents of volume I will appear later.

The Blues (Splanchnic Neurasthenia).

Causes and Cure. By Albert Abrams, M.D. (Heidelberg), consulting physician to the Denver National Hospital for Consumptives, the Mount Zion and the French Hospitals, San Francisco; president of the Emanuel Sisterhood; formerly professor of pathology and director of the Medical Clinic Cooper Medical College, San Francisco. 240 pages, illustrated. Cloth, \$1.50. E. B. Treat & Co. New York.

When one may read of a definite causation of a neurasthenic condition with explicit directions as to diagnosis, and with definite promise of the results of treatment, which is detailed in full, one feels that he may perhaps have succeeded in gaining some kind of a grip on this very elusive disease. There seems no doubt that there is such a definite form of this disorder as is described by Abrams. He calls it the splanchnic form and he details very entertainingly the points of identification, as well as the methods of exercise, massage, hydrotherapy and drug treatment necessary to overcome the passive congestion of the blood in the abdominal

veins which is the cause of the failure of nutrition and the consequent symptoms of this class of patients.

The book bears the very catchy name of "The Blues," and we instinctively open its blue covers if for no other reason than to see whether we can not find something therein which may redound to our personal comfort. For what one of us has not in our time suffered from this bane and have had recourse to calomel and salines. If you read the book you will get some good ideas.

Manual of Clinical Microscopy and Chemistry.

Prepared for the use of Students and Practitioners of Medicine. By Dr. Hermann Lenhartz, professor of medicine and director of Hospital at Hamburg, etc. Authorized translation from the fourth and last German edition, with notes and additions by Henry T. Brooks, M.D., professor of histology and pathology at the New York Post-Graduate Medical School and Hospital; member of the New York Academie of Medicine, etc. Pages xxxii-412, octavo, 148 illustrations and 9 colored plates. Extra cloth, \$3.00 net. F. A. Davis Co., Philadelphia.

We regard this as a most valuable manual on clinical microscopy and chemistry. It is arranged and adapted for practical diagnostic purposes, and contains clinical bacteriology, chemical and microscopical examinations of the secretions and fluids of the body. Heretofore, two volumes have been needed; now, all is found in one. All recent discoveries in technic and the latest knowledge of diagnostic interpretations are given. This is a most exhaustive manual and should have a wide sale.

Infant Feeding.

In Its Relation to Health and Disease. By Louis Fischer, M.D., visiting surgeon to the Willard Parker and Riverside Hospitals of New York City, etc.; 3d edition, containing 54 illustrations and 24 charts and tables, mostly original. Price, \$2.00. F. A. Davis Company, Philadelphia.

This book, well known, especially among those interested in infant feeding, has reached its third edition. The subject is well handled in most particulars, but some details and directions are not as explicit as might be—for instance, concerning peptonizing milk. We can not get a pint of whey from a pint of milk; it seems Dr. Fischer can (page 327). We can not see any difference between whey and sweet whey. The index is not perfect. The book is a useful one.

Transactions of the National Association of U.S. Pension Examining Surgeons. Second Annual Meeting, May 13 and 14, 1903, at Washington, D.D.

The Transactions are full of interesting papers to examining surgeons, the most valuable one probably being that by Dr. Raub, late medical referee on "Improvement on Reports." The difficulties experienced by the examining surgeons in giving the medical referee an accurate picture of the claimant's condition is great and the suggestions of Raub are much to the point. It is difficult to understand how a man can send in such reports of the condition of claimants as are said to be received in the Pension Department at Washington and such simple errors; as for instance, the confounding of "Eustachian" tubes with "Fallopian" tubes, "Mensuration" with "Menstruation."

A Kansas board reported: "Urine neutral in reaction, ophthalmoscope reveals mucus and epithelial scales."

A Pennsylvania board reported: "By closing the mouth and nares and blowing air passes through the Fallopian tubes and ears, and can be heard at a distance of 12 feet."

Another board reports: "His stools are thin and triangular in shape."

However, the majority of reports are not such but the reading of the Transactions by Examining Surgeons of the Pension Bureau would redound to the benefit of the surgeons, the Bureau and the claimants.

Transactions of the American Climatological Association.

A reading of this Volume 19, 1903, of the Transactions of this Association would benefit any practitioner. The greater number of papers deal with diseases of the respiratory and circulatory systems and with the climatological phases.

A System of Physiologic Therapeutics. A Practical Exposition of the Methods, Other than Drug Giving, Useful in the Prevention of Disease and in the Treatment of the Sick. Edited by Solomon Solis Cohen, A.M., M.D. In eleven octavo volumes. American English. German and French Authors. Price, for the set complete, \$27.50, net. P. Blakiston's Sons & Co., Philadelphia.

Volume VII.—Mechanotherapy and Physical Education, including Massage and Exercise. By John K. Mitchell, M.D., and Physical Education by Muscular Exercise. By Luther Halsey Quilick, M.D., director of physical training in the Public Schools of Greater New York. With special chapters on Orthopedic Apparatus, by J. K. Young, M.D. On Corrective Manipulation in Orthopedic Surgery (including the "Lorenz Method"), by H. Augustus Wilson, M.D., and on Physical Methods in Ophthalmic Therapeutics, by Walter L. Pyle, M.D. With 229 illustrations. 1904.

In view of the fact that manual methods in the cure of disease have become a fad, and in the hands of certain schools of practitioners have been subjected to wild theories and great exaggerations, this volume will find a fitting place; for it has the spirit of true science throughout. The manipulations and physical methods described are complete and thorough. The movements are well illustrated so that the practitioner will have little trouble in grasping the import of the described procedure.

At the same time nothing in the volume is exploited with the idea of making it a cure-all. The methods are useful and a very much neglected means of restoring the sick, but these methods do not constitute the whole of therapeutic agents.

We desire again to emphasize the importance of this system. There can be no doubt that many of our patients would not slip away from us to quacks if we were thoroughly imbued with the value of physical methods and had a clear knowledge of the different physical methods; especially is this true of hydrotherapy and mechanotherapy.

The Practical Medicine Series of Year Books.

Comprising 10 volumes of the year's progress in Medicine and Surgery, issued monthly under the general editorial charge of Gustavus P. Head, M.D., Prof. of Rhinology and Laryngology, Chicago Post-Graduate Medical School. The Year Book Publishing Co., 40 Dearborn street, Chicago. Price for the series, \$5.50, in advance.

Volume II.—General Surgery. Edited by John B. Murphy, M.D., professor of surgery, Northwestern University Medical School. Price, \$1.50.

The field of surgery is constantly being enlarged; operations that were recently only tentative have now become recognized surgical procedures. New instruments are constantly being devised and improved technic being adopted for surgical operations. This volume of general surgery is replete with new and valuable material, winnowed from the year's literature by the hand of its efficient editor. A perusal of this work is well worth the while of every practitioner.

The International Medical Annual.

A Year Book of Treatment and Practitioner's Index. 1904. Twenty-second year. Cloth, \$3.00. E. B. Treat & Co., New York.

This therapeutic annual appears in its usual form and, as usual, its contributors are mostly physicians of Great Britain. We do not know that this is such a drawback, but there is a tendency to place English literature in the foreground. The general review is far too short this year. As is well known, the articles do not deal exclusively with therapeutics, but practical diagnostic or even pathologic items are interspersed with the progress of treatment. The review of medical and surgical progress for 1903 is very good. There are several beautiful plates. Special mention must be given to those illustrating the rash in typhoid and typhus fever. Surgical treatment also is given much attention throughout the volume. It records well the rather meager progress made in therapeutics during the last year.

The Story of New Zealand. By Prof. Parsons, Ph.D. Equity Series. C. F. Taylor, Philadelphia. 1904. Price, \$3 00.

Dr. Taylor, editor of the *Medical World*, has done good service in publishing this history of New Zealand—how that country (at least temporarily) solved some of the most momentous industrial and social problems, which are agitating this country to-day. It should be read by every American citizen.

The Transactions of the Medical Society of New Jersey, 1903.
L. F. Hordham Printing Co., Newark, New Jersey.

This neat annual does great credit to the medical profession of New Jersey. The President's Address calls special attention to the fact that New Jersey does not accept the license of any state as a sufficient ground for indorsement. The review of the various departments by the several members are quite thorough and complete with the exception of the report on progress in surgery where the writer has ignored advances made in brain surgery, etc., having limited himself to the abdomen almost entirely.

The several papers are valuable acquisitions and show thoroughness. Dr. Ill's paper and that of Dr. Griffith deserve special mention.

It is certainly a neat and valuable volume, printed on good paper and well bound.

Stories of a Country Doctor. By Willis P. King, of Kansas City, Mo. Illustrated. Price \$1.00. The Clinic Publishing Company, Chicago.

Who has not read this entertaining book should certainly get a copy. It is refreshing after a day of care to compare the hardships of the pioneers in the country with our modern methods. The book shows the difficulties with which the country doctor has to contend and reveals the humerous side of a very responsible calling.

The Perpetual Visiting and Pocket Reference Book. Including Information in Emergencies from Standard Authors, also the following comprehensive contents: Table of Signs and how to keep Visiting Accounts, Obstetrical Memoranda, Clinical Emergencies, Poisons and Antidotes. Dose Table, Blank leaves for Weekly Visiting List, Memorandum, Nurses Addresses, Clinical Record, Obstetrical Record, Birth Record, Death Record, Vaccination Record, Bills Rendered, Cash Received, Articles Loaned, Money Loaned, Miscellaneous, Calendars for 1904 and 1905. Bound in Morocco, Red edges. Pages 124. Price, 10 cents (to cover postage). The Dios Chemical Company, 2940 Locust street, St. Louis, Mo. 1904.

This is one of the neatest and most complete Visiting Lists offered to the profession. The Dios Chemical Company propose to furnish a limited number of this unexcelled Visiting List to the profession for 10 cents (for postage). The doctor will readily recognize that the Dios Company is saving no expense in keeping its name prominently before the profession, for whom it manufactures products, of more than ordinary merit, exclusively for the physician to prescribe. Those of our readers who desire a complete Visiting List, have only to remit 10 cents (for postage) to the Dios Chemical Company, St. Louis, Mo., and they will receive it.

The Courier of Medicine Company will mail, postpaid, any book reviewed, on receipt of price.

NOTES AND ITEMS.

Announcement.

Of this issue we mail 5,000 extra copies with a view of increasing our subscription, see subscription blank, advertising page 3.

Medical Association Meetings at St. Louis During World's Fair.

American Surgical Association, May.

Missouri State Medical Association, May 17-20

Medico Psychological Association of America, May 30-June 3.

National Eclectic and Medical Association, June 14-18.

Tri-State Medical Society, June 15-17.

American Association of Obstetricians and Gynecologists, September 13-15.

American Electro-Therapeutic Association, September 13-16.

American Neurological Association, September 15-17.

American Congress on Tuberculosis, October 3-5.

Association of Military Surgeons of the U. S., October 10-15.

Runge Memorial Meeting.

A public meeting commemorating the life and medical and municipal work of the late Dr. E. C. Runge is in course of preparation. The meeting will take place at Memorial Hall on the evening of June second, in conjunction with the annual convention of the American Medico-Psychological Association. Brief addresses touching upon Dr. Runge's various activities as an alienist and as a public official will be made by Drs. Robert Luedeking, Gustav Baumgarten, Frank R. Fry, the Rev. J. W. Day and Professors H. C. Ives and Otto Heller. The Meeting will be open, and it is earnestly hoped that members of the medical profession will by a large attendance signify their appreciation of the service rendered by Dr. Runge to the profession as well as to the civic life in general. President E. C. Eliot of the Civic Improvement League has been elected as Chairman.



DR. MOSES M. PALLER.

Born 1810; Died in St. Louis, September 24, 1876.

(See Biographical Sketch).



DR. JOHN HENRY WATTERS.

Born 1827; Died in St. Louis, September, 1872.

(See Biographical Sketch).

ST. LOUIS
COURIER OF MEDICINE.

VOL. XXX.

JUNE, 1904.

No. 6.

ORIGINAL CONTRIBUTIONS.

**Treatment of Non-Malignant Diseases of the
Skin by the X-Ray.**

By **JOSEPH GRINDON, M.D.,**

ST. LOUIS, MO.

LUPUS VULGARIS.

I CAN recall but two cases of lupus vulgaris, treated by me, in Americans of American parentage. The experience of all American dermatologists accords with mine in this particular. I now, however, have under observation an American case of the first magnitude. When we say that lupus is a disease of youth we mean that it begins in youth. This case extends over a period of fifty-seven years and began when the patient was 11 years of age. It is characteristic—showing corded, rugous scars, such as exist after a burn of the third degree. The soft tissues have disappeared from the nose and left the skin white, tense and atrophic.

This patient had been under treatment since her 11th year, part of the time under the care of general practitioners and part under an able dermatologist. She says she never received any benefit. She only seemed to grow worse. Under treatment it would become more acute and ulcerate.

Read before the Medical Society of City Hospital Alumni, March 3, 1904.

When the patient presented herself, the surface was covered with crusts and scales. From the first, improvement was apparent. There had been mild subjective sensations but these disappeared almost immediately. After I had given forty-eight treatments at the rate of three a week, there was marked improvement about the nose, lips and cheeks, but little or none at the sides, for the reason that the tube had been directed to the center of the face. After sixty-four treatments dermatitis resulted and required suspension for a week. When this condition was relieved the treatments were resumed, and twenty-four given, making eighty-eight in all. The patient is not well, but vastly improved, by the month's treatment, and this is the first improvement noted in the fifty-seven years' duration of the case.

It is interesting to compare the results obtained by x-rays with those by the Finsen light. A case that Dr. Engman will remember went from here about a year ago to London where she received the Finsen light treatment and returned vastly improved, but not cured. Drs. Hyde, Montgomery and Ormsby, of Chicago, about a year ago reported in the *Journal of the American Medical Association* some observations on a number of cases of lupus in which the x-ray and modified Finsen light were used. In some cases the x-ray was applied to one side of the face, and the Finsen light to the other for comparison. The rate of progress under the two kinds of treatment was about equal.

I have had no experience with the ray in other forms of cutaneous tuberculosis.

BLASTOMYCOSIS.

A condition which externally simulates tuberculosis of the skin, is blastomycosis, an inflammation due to the presence of a yeast fungus. It has been described by Gilchrist, Hyde and others. It is quite common in Chicago. There are very few cases in other parts of this country and very few in Europe. Most of these cases occur in people who are farmers or engaged in the handling of grain. A farmer came to me recently with a diagnosis of skin cancer. It was evident that it was not a skin cancer, and a clinical diagnosis of blastomycosis was made and afterwards confirmed by finding blastomyces in the pus. The patient came for x-ray treatment. I questioned whether it would be of any benefit, but

on exhibiting the case to some of my dermatological friends they advised that the x-ray be used, and I tried it. I gave him thirty-seven treatments with absolutely no effect. I was keeping the lesion clean, washing it out every day, and so, of course, it looked better than when he came to me. I then curetted, scraping down to between the metacarpal bones and burned out the wound with acid mercuric nitrate; the thing returned. I curetted again and burned it out and again it returned. After keeping at it until the patient's patience and mine exhausted, I turned the case over to a surgeon and the hand was amputated at the wrist.

KERATOSIS FOLLICULARIS.

One of the very rarest conditions known to medicine is that which has been called Darier's disease—psorospermosis, a condition in which we find bodies thought at first to be protozoa, psorosperms, belonging to the class of coccidia, but which are now recognized as modified epithelial cells. The condition was also observed by White, of Harvard, who termed it keratosis follicularis. As far as I know there have been only four observed American cases, one in New York, two in Boston and one here. It is characterized by the formation of papules, many of which pustulate. About the inguinal folds and in the natal cleft there occur fungous, cauliflower-like excrescences from which may be squeezed a cheesy substance. The pain and discomfort arising from the excrescences in the folds is very great. Ordinary methods of treatment were of little avail in this case. I used something to keep the parts clean and lessen the itching, and used the x-ray, particularly on the papillomatous excrescences. After nine applications, two a week, there was no particular result, though the patient thought itching was eased. I may say here that in a variety of diseases, even when there is no objective improvement, we do generally get some result from the x-ray in the way of relieving pain.

KELOID.

Is a condition which in the past has been very difficult of treatment for the very manifest reason that if we cut out a keloid it is very likely to return. Electrolysis has sometimes been of benefit. Injections of thiosinamin have given some relief. Pusey of Chicago reported a cure of a keloid on

the arm of a boy, by application of the x-ray. The case which came to me was that of a young, healthy Irish girl. She had spilled some hot coffee on her chest causing a keloid which spread over the greater part of both mammæ. Not only was it disfiguring but it was attended with very disagreeable sensations. Ordinarily, keloid is not painful, but once in a while it is very sensitive indeed. In this case there was considerable redness and intense itching, so much so that she was constantly compelled to pull her dress away from her chest to get relief. The itching was greatly relieved after two sittings. After twelve more sittings relief from the itching was complete. The cure was very slow. She was very faithful, however, and came regularly. After sixty-four treatments the lesion was flatter, paler and smaller. After ninety-six treatments there developed some erythema. I interrupted the treatments, gave her a mild salicylic ointment, and told her to return after its subsidence of the redness. She did not return for a whole month and when she did, to my distress, I found that the dermatitis had continually grown worse. There was vesiculation. It looked as if there might even be superficial sloughing. After twenty days of treatment the dermatitis disappeared, however, and the lesions flattened down and disappeared. The last time I saw her there was only a little redness at the sight of the keloid patches.

HIDRADENITIS SUPPURATIVA.

An interesting condition is suppuration of the coil or sweat-glands, called by the French acnitis and folliclis. It is found about the face, rarely elsewhere, and is characterized by deeply seated, hard nodules, at first invisible, but appreciable to the touch, later becoming pink and then a deep red. Upon making a deep puncture with the lancet we get only a drop of pus. Where the disease has run its course there is left a pit something like that of smallpox. The disease is a very rare one in my experience. A case presented itself recently and has received nine treatments with the ray, with the result of some paling of the lesions and some flattening. Meanwhile other lesions have appeared. No method of treatment has ever given a very satisfactory result, the disease often continuing for weeks, months or even years.

ACNE NECROTICA.

Among other diseases which have heretofore been but little benefited by treatment is acne varioliformis, sometimes called acne frontalis, acne necrotica, etc., the lesions occurring on the scalp, the middle third of the face, and the anterior and posterior aspects of the chest along the median line. The lesions consist of papules which leave a deep pit, hence the name *varioliformis*. It is a most rebellious disease. An extreme case presented itself in November of 1902. The patient was a young girl. The disease had continued for years and had been treated by some of the best men here with no improvement. I treated the case from November, 1902, until July, 1903, with absolutely no improvement. I think the patient and I were getting heartily sick of each other. Applications and medication seemed to give no result at all. It was absolutely the worst case that I ever saw, covering the face, with a group here and a group there, making a mass of swollen tissue. As the inflammation in one group would subside another group would develop. I began treating the case with the x-ray last July and gave forty sittings in four months with the very greatest improvement. Instead of the whole face being involved, only here and there would crop up a single lesion, so that the patient was very much gratified. In the course of three months I gave twelve more sittings. I have not seen the patient since. The result was a virtual cure.

Another case of necrotic acne has shown marked improvement after only four applications.

ACNE VULGARIS.

In acne vulgaris I can say that in a general way the ray has been most satisfactory. I have not gone to the extent of Zeisler, of Chicago, who says that he has virtually abandoned all other modes of treatment. I continue the use of approved measures, such as local applications, sometimes arsenic, regulations of the bowels and the diet, scaling off and curetting, which is, of all means, after the x-ray, the most valuable. However, in the pre-x ray days I used these methods and did not get as favorable results as I do now. The results in my hands have not been as rapid as in the hands of some others. I do not know why. But although they have been slower they have been sufficiently rapid to be satisfactory to me and as far

as I have been able to go they seem to show this encouraging characteristic—there does not seem to be the same tendency to recurrence, and it looks as the cases were not only relieved but cured. I believe the action of the ray in acne depends upon its tendency to inhibit pus formation and bring about atrophy of the sebaceous glands. When used short of producing dermatitis it seems to result in atrophy of the more highly specialized tissues of the skin and hypertrophy of lower tissues. For example, while ordinary epithelium and pigment will hypertrophy, the sebaceous glands, sweat-glands, hair and nails undergo atrophy. It is chiefly in this way, I believe, that these cases are helped. Supposing that the ray destroy a large share of the sebaceous glands in the skin, what will be the ultimate result? Will it manifest itself in some untoward manner years later? It is possible. For the present the result is gratifying. I have not treated a single case without improvement.

TINEA CAPITIS

is often difficult to cure. The general practitioner often undertakes a case with a light heart, but the specialist feels proud if he cures it within six months. Aldersmith, of London, mentions one case he has had under treatment for twelve years and which is not well. The fungus invades the hair-follicle. Pulling out the hair is not easy. If the hair shaft is infiltrated it does not pull out, but breaks off. That is the difficulty. We could kill the fungus if we could only get at it. Aldersmith secures the pushing out of the hair by needling the follicle with croton oil. In the x-ray we have a more expeditious manner of accomplishing the fall of the hair. With the hair we bring out quantities of the fungus and at the same time are permitted to get at the disease with medication. One case which I had treated for seven or eight months without success was secured after seventeen applications of the ray. The alopecia which resulted enabled me to use antiparasitic medication successfully.

HYPERTRICHOSIS.

Since the x-ray will detach the hair, its use is suggested in hypertrichosis. The fall of the hair brought about by the x-ray is not necessarily permanent. I believe it is rarely permanent unless we choose to make it so. A slight dermati-

tis usually preceeds fall of the hair. If we stop there the hair will probably return. If we then repeat the process until the hair fall again, alopecia will probably be permanent. I have treated several such cases. Where there are only a few coarse hairs, electrolysis is the method of election. But there is another class of cases. Women, often blondes, sometimes present a fuzz of fine hair on the face, a very ugly condition. Some of these women are wretched, by what they consider as tantamount to a deformity and seclude themselves from society, becoming absolutely melancholy and morbid. If there is a fine down on the face electrolysis is out of the question. It would be an endless job, would be worth several hundred dollars and would wear out several pairs of eyes. Depilatories take off the hair but it comes back again. The x-ray is especially adapted to these cases. As an example of how difficult it is sometimes to bring about alopecia, I may mention a young woman who came to me with this fine down all over the face, I went to work on the case, directing the ray against the chin. I gave her twenty-six sittings without a sign of effect. I began with a soft tube, then I tried a hard tube. After awhile there appeared a slight dermatitis and the hairs fell, but it required thirty-two sittings in all to effect a cure.

LEUCODERMA.

Anyone who has used the x-ray knows how likely it is to bronze the face, so I thought it would be just the thing in leucoderma. In a single case I failed utterly to get any return of pigment in the involved area.

PRURITUS.

Inasmuch as subjective sensations are so often eased by the x-ray I thought that simple pruritus should yield readily. I have tried it in several cases of pruritus and without any effect.

These are about all the non-malignant diseases in which I have used the x-ray. In the majority of diseases, perhaps, the result was negative. If I were to count all the cases, swelling the list with a goodly number of acne patients, the total would be much in favor of the x-ray. It is not a cure-all. It is a great help in some forms of disease, and in a few will bring about a cure when nothing else will do so.

Other workers have had results in diseases in which I have never used it. Something like one third of all cases that present themselves to the dermatologist are eczema, I am a little conservative in the treatment of eczema and have been using the old-fashioned methods under which patient, usually get well. In psoriasis it has been of great benefit, in the hands of some. Mycosis fungoides has been much improved by this treatment, according to report.

Femoral Herniæ.

By ROLAND HILL, M.D.,

ST. LOUIS, MO.

A FEMORAL hernia descends through the weak space on the inner side of the femoral vein known as the crural canal, and becomes superficial at the saphenous opening in the fascia lata. It usually occurs as a tolerably firm, tense, unyielding tumor of a rounded shape. Its size varies considerably, being generally not larger than a walnut, but occasionally it may be found as large or larger than an orange. As it enlarges it usually extends upward and outward over Poupart's ligament and may become less tense, and have a doughy feel. It may, however, extend downward on the front of the thigh. One case is reported where it extended nearly to the knee, and another where it forced the fascia on its outer side, and became imbedded in the fat behind, and to the outer side of the femoral vessels.

Femoral hernia is more common in the female than it is in the male. It is, however, less frequent of occurrence in both male and female than is the inguinal type. The proportion of femoral to inguinal hernia in the male about 1 to 20; in the female about 1 to 2. Dr. J. H. Baxter of the United States Army has prepared elaborate tables showing that of 334,321 recruits examined for entrance to the army 17,296 cases were rejected because of hernia. Of this number we find right femoral hernia in 277 cases, left femoral in 119 cases, and double femoral in only 34 cases.

The diagnosis of a femoral hernia is at times exceedingly difficult, as there are a number of pathological conditions in this region that simulate it very closely. From an inguinal hernia the diagnosis is not usually attended with difficulty if we remember that the femoral hernia has its exit from the abdomen below Poupart's ligament, while the inguinal hernia escapes above the ligament. The spine of the pubes is also an important landmark, as it lies to the inner side of the protrusion in femoral hernia, and to the outer side in inguinal hernia.

A rupture of the femoral variety is reduced in a backward and upward, or a downward, backward and upward direction, while one of the inguinal type is reduced in an outward and upward direction. One of the best methods of making a differential diagnosis, however, is to insert a finger into the hernial space from below, invaginating the skin, when it is usually easily demonstrated through which aperture the protrusion makes its escape.

The diagnosis from a psoas abscess may give considerable trouble but can usually be determined by carefully examining patient as to the history of the case. A psoas abscess usually points on the outer side of the femoral vessels, while a hernia lies to the inner side. The abscess is also soft and semi-elastic in contrast to the markedly tense feel of the hernia. Impulse on coughing may be distinct in the abscess in which it is usually more forcible and direct than in the hernia. If reduced by pressure it goes back without the distinct slip or gurgle that attends reduction of a hernia.

Varix of the saphenous vein is in some danger of being confounded with femoral hernia. It has, however, little or no impulse on cough. The vein is enlarged below the swelling. It lacks the tense character of a hernia, and the slip and gurgle attending reduction of a hernia are absent. If reduced by pressure the swelling returns with a peculiar thrill that is pathognomonic.

A femoral adenitis, inflammation of the glands in this region may present signs very similar to those of an inflamed femoral hernia. Here the history of the case, together with the fact that several glands are likely to be diseased at the same time will tend to clear up the diagnosis. If, however, a small femoral hernia should exist at the same time as a femoral adenitis a correct diagnosis might be almost impossible.

Lipomata in this location are at times hard to distinguish from femoral hernia. They occur as semi-fluctuating masses that are without impulse on cough. A careful examination of the swelling, together with absence of the hernial impulse will usually render the diagnosis possible.

The less common conditions as cysts, exostoses, fibromata and malignant growths can only be differentiated from femoral hernia by a careful examination of the enlargement and inquiry into the clinical history of the case.

Femoral hernia is not common before puberty, and in many cases a history of some severe strain will be given. The contents of the sac will usually consist of bowel or bowel and omentum, while omentum alone will not often be found. The following history will prove of interest because of the sex of the patient, the existence of omentum alone in the sac, and the grave state of the rupture without the symptoms of gravity being present.

The patient, L. J., aged 21 years, white, was employed by St. Louis Transfer Company, and engaged in hauling heavy merchandise from East St. Louis to St. Louis. Family history excellent; no history of any disease or hernia in any other member of the family. Personal history: He has always been in the best of health, and never had any sickness that he can remember. When a lad he had noticed a little lump at the right femoral ring the size of a marble. It would appear and then go away again, and he paid no attention to it. This condition continued until June, 1899, when he went to a ball game at which he became very much excited. He laughed and cheered so hard that the lump appeared again, but was larger and more painful than before, and did not disappear. The pain did not persist all of the time, but he suffered a good deal until ten days before coming to the hospital in February, when the hernia suddenly became a great deal larger and very painful. He visited two doctors who tried to reduce it, and then came to me February 21, 1900. At that time he had an irreducible femoral hernia the size of two hens eggs. There was no elevation of temperature, and the pulse was normal, but pain was at times very severe.

February 23, 1900, patient admitted to Deaconesses Hospital, and I operated on him February 24, at 10:30 a.m.

An oblique incision was made over the tumor, and the sac opened. The contents, consisting of omentum, were firmly

adherent, and on the verge of strangulation, the color being a greenish brown. No bowel was present in the sac. The diseased omentum was ligated and removed; the sac was also ligated and excised. The wound was then closed with deep sutures of catgut embracing the fascia over pectineus and Pourpart's ligament. Superficial sutures of silk worm gut were used for skin and fascia, and a small drain was left in at the lower angle.

At 8:00 p.m. same night temperature was 100° and pulse 68. There was considerable vomiting and pain. At 3:00 a.m. next morning temperature was 103° and pulse 64, but at 5:30 a.m. it was 99° and pulse 61. That morning just after 3:00 o'clock the patient taking advantage of the momentary absence of the sister, got out of bed, walked across the room to use the urinal, and also drank three full glasses of cold water from the pitcher. Strange to say, he did not suffer the least ill effect from this gross indiscretion. The highest subsequent temperature was 99.8° .

Removed stitches on tenth day, and found primary union throughout. Patient was discharged from the hospital on twenty-fourth day, with an elastic abdominal binder and pad to support wound. He is now at his usual work with the Transfer Company. I examined him in March, 1903, and found wound in perfect condition. There is not the slightest suggestion of rupture although patient has not worn any support for a couple of years, and is still at the heaviest kind of lifting.

The second case, attended with a fatal result, I shall report only because of the many interesting features connected with it.

The patient, Chas. Moore, german, aged 60 years, admitted to the St. Louis City Hospital November 20, 1902, at 11:45 a.m., suffering from a strangulated femoral hernia of the left side.

Family history: Patient has three brothers and two sisters living, all in good health. There are no cases of hernia in the family.

He gave a history of having been operated on for hernia several years before. Five days before being admitted to the hospital the rupture came down again. This became painful and inflamed, but he did not seek medical advice until compelled to do so. Dr. Rassieur immediately operated, making

a vertical incision four inches long. The bowel was found gangrenous, and all of the infected portion could not be brought down. As the patient seemed likely to die on the table an artificial anus was made, and a glass drainage tube inserted. Patient rallied somewhat, and the next day about 7:00 p.m. I was sent for to see him. He was already on the operating table, prepared for further operation. As peritonitis was present the chances for relief seemed almost *nil*. However, I made a free opening over the hernial site. The skin was greenish and partially gangrenous. The bowel appearing in the wound was absolutely gangrenous. One end I managed to pull down until I came to healthy bowel, but the other end could not be brought down at all. Under these conditions I made an incision through the ligament, and slit the abdominal wall nearly to the umbilicus before getting to a part of the bowel that seemed healthy enough to anastomose. The shortness of the mesentery had prevented the bringing down of the bowel. The deep epigastric artery was cut and tied. I now removed about fifteen inches of bowel, and made an anastomosis with a Murphy Button. As a peritonitis had already developed the wound was thoroughly drained with gauze. The operation consumed one hour, and patient was put to bed in apparently as good a condition as when he came on the table. Owing, however, to his toxic state and the peritonitis present his vitality gradually failed, and he died on the following day.

The third case is one operated on by Dr. H. L. Nietert, Superintendent St. Louis City Hospital, the history of which he has kindly permitted me to use. This case is interesting from the fact that patient was a male, and also that he had the rare conditions of femoral and inguinal hernia on the same side at the same time.

The patient, R. O. D., aged 38 years, doctor of medicine, was admitted to the City Hospital December 16, 1902. Some time prior to this he had been in the hospital under treatment for the morphin and cocain habits. When admitted this time he was found to be suffering from rheumatism and hernia. The rheumatic pains were quite severe and of an irregular character. Patient had both femoral and inguinal hernia on the right side. Patient was operated on for inguinal hernia December 30, 1902.

An incision was made parallel to Poupart's ligament from

anterior-superior spine of ilium to pubes. The tissues were divided, sac freed and ligated. A section of the spermatic veins about four inches long was ligated and excised; the conjoined tendon and rectus muscle were sutured to Poupart's ligament with heavy silk mattress sutures. The aponeurosis was sutured with catgut and the skin with silk worm gut. This wound healed by primary union, and on January 16, 1903, operation was performed for the cure of the femoral hernia.

Incision was made through skin and superficial fascia, and some lymphatic glands were removed. The saphenous opening was exposed with the vein entering it. The hernia was now exposed lying in the crural canal; the sac was small and easily freed from the surrounding tissues. It was ligated well beyond the neck, and the stump pushed through the femoral opening. In order to prevent a return of the rupture a silver wire flagree was inserted into the crural ring, and retained in that position by a silver wire suture to Poupart's ligament and to Hey's ligament, thus closing the opening completely. The superficial fascia was now sutured together and skin edges coapted with silk worm gut. Healing of the wound took place by primary union, and the patient goes about without the slightest inconvenience from the flagree.

The fourth and last case is that of C. L. H., a colored woman, age not known. This patient came to me three years ago with a history of ill health extending back for several years. Examination showed a very greatly dilated heart due to aortic obstruction. She had also an enormous cystocele, which was giving her a great deal of trouble. On examining for the cystocele I found that it was caused by a large uterine fibroid that was pressing on the bladder. Because of the heart lesion it was not deemed advisable to attempt to remove the fibroid, so on Feb. 20, 1900, I did an anterior colporrhaphy at the hospital. This gave the patient relief from the cystocele until recently when it has shown signs of returning. Shortly after the operation for cystocele the patient began to show signs of a femoral hernia on the right side, very probably due to increase of intra-abdominal pressure from the fibroid. This continued to increase in size in spite of a truss, and finally became irreducible.

I advised operation, but was refused. On November 17, 1902, however, the patient had a severe vomiting spell, during which the hernia increased in size, became tender, swollen and

incarcerated. She was removed to the colored hospital, and on November 18th, 1902, I operated. A vertical incision was made over the swelling, and the sac opened. The bowel was very dark and angry in appearance, but when pulled down and douched with hot water it was found to be viable, and was replaced. Part of the omentum was ligated and the sac dissected up and removed. After the stump of sac was replaced inside of crural ring the opening was closed by suturing together Poupart's ligament and the fascia covering the pectineus. This was done with a continuous suture of fine silver wire. The skin was then sutured with silk worm gut. The wound healed by first intention, and for a time the patient suffered some inconvenience from the wire. This has, however, ceased to trouble her, and she attends to her work without any discomfort except from the fibroid. This fibroid is increasing in size, and will probably soon have to be subjected to operative measures.

In the cases here described we have illustrated a very common way of treating femoral hernia, the closing of the ring by suturing the fascia over the pectineus muscle to Poupart's ligament. This practice has been criticised by those who claim it is liable to cause a thrombus of the femoral vein, and also that the structures are apt to give way and the hernia return. The criticism is, perhaps, of little value from a practical standpoint.

The use of filagree seems to have a definite value in many cases of hernia.

The most comprehensive report of burying of silver wire was made in reference to inguinal hernia by the late A. M. Phelps, of the New York Hospital.

The practice is condemned by Coley of New York, who holds that it is bad surgery to bury any non-absorbable material. Notwithstanding this eminent opinion it has become a very common practice with many surgeons both in England and this country to strengthen the wound in hernia cases when the muscles are weak, by burying silver wire filagree.

Another plan of curing femoral hernia is the purse string method advocated by Coley. This is certainly to be recommended for its simplicity, and from Coley's reports, for its efficiency.

A suture of chromicized kangaroo tendon or catgut is inserted through Poupart's ligament at the inner edge of the

crural ring. The needle is carried down into the pectineus muscle, outward in the muscle and up along side of the vein, catching a good bite of the fascia in front of the vessels, then out through Poupart's ligament one-half to three-quarters of an inch from point of entrance. When this is tied it closes the ring completely. Coley has employed this method with most remarkable results.

The second case reported where Poupart's ligament and the abdominal wall had to be layed open in order to reach a healthy section of bowel illustrates a comparatively rare condition. This case is one that early operation could have saved. In fact, this tends to emphasize the old saying that in strangulated hernia the sun should not be allowed to set, or if at night to rise until the patient has been relieved, and right at this point one can not do better than to emphasize the fact that radical operation for the cure of hernia has become an almost perfectly safe procedure. The mortality is now less than 1 per cent. The returns in inguinal hernia average only about 3 per cent, while Coley reports 64 cases of femoral hernia with only one partial return. Under these conditions, considering the discomfort of a truss, the liability of inflammation, incarceration and strangulation of a hernia, the inability to enter public service or to secure life insurance, I believe that every case of hernia in persons during the active period of life, and free from other disease, should be given the benefit of operative relief.

In regard to technic of hernial operations, there is little to be said except that all known aseptic precautions should be taken. It is essential that every precaution should be taken to prevent infection, as failure to procure primary union so often ruins our results. All oozing must be thoroughly stopped before closing the wound, as a hematoma so often becomes infected, and makes re-opening of the wound necessary, a circumstance to be deplored.

The fact that rubber gloves can be sterilized, and that the hand can be only imperfectly sterilized has led to the adoption of gloves by many of our best operators. Coley reports 100 cases of herniotomy without rubber gloves in which the wound was infected in four cases. In his next series of 200 cases with gloves he had but one case of infection, and that was in a patient who already had a streptococcus infection of the skin. After a little practice the gloves do not interfere with the

operator, and I believe that their use marks another step in the advancement aseptic surgery.

Tænia in a Child.

By M. J. LIPPE, M.D.,

ST. LOUIS, MO.,

ASSISTANT TO THE PEDIATRIC CLINIC, POLYCLINIC HOSPITAL.

PATIENT, Ruth K., aged about 4 years, presented the following history: She is the third child of healthy parents. At birth, or soon after, it was noticed that she had a nasal discharge of a mucopurulent character. Nursing was difficult, the child letting go after a few seconds, respiration being carried on by the mouth entirely. Microscopic examination of the nasal discharge for gonococci was negative.

During the third month, the discharge from the nose having kept up and mouth breathing continuing, an examination was made, under anesthesia, by Dr. L. Caplan and myself, and it was found that there was a complete atresia of the posterior nares, the probe or bougie coming in contact with firm, bony tissue.

Since then the discharge has grown less, but the mouth breathing, of course, still continues.

Following this examination the child fretted and cried a great deal, developing a double inguinal hernia in addition to a congenital umbilical hernia.

Outside of an attack of bowel trouble and an occasional attack of bronchitis, this child's health was fairly good, although she was puny and had mild rickets.

During the last year she has grown quite plump. Two and a half months ago she developed a peculiar cough and began to pass segments of a tapeworm. The father administered an anthelmintic which resulted in the passing of a mass of tapeworm, but it grew again in about seven weeks, segments again appearing in the stools, and the cough returned. At this time I examined the child and found no physical signs in the chest, although there was quite a cough. Temperature and pulse were normal.

The treatment was as follows: A light supper, a dose of castor oil on retiring, 1 dram of oleoresin of male fern in capsules the next morning, followed by 6 drams of castor oil. Two hours after the administration of the male fern the worm was expelled head and all.

I have the head and neck mounted which I will ask you to look at. The head presents four suckers but no hooklets, being the head of a *tænia saginata*, or beef-tapeworm. The cough has ceased since the worm was expelled.

The dose of male fern appears rather large for a young child, but it has been my experience that small doses result in failure to get the head, requires repeated trials, much to the disgust of the child and a possible chance for the quack and charlatan to step in and succeed when the general practitioner fails. The reason the quack frequently succeeds is that he gives a good big dose.

Functional Renal Activity.

Vaelcker and Joseph (*Munch. Med. Woch.*) have found indigo-carmin a valuable means for determining the functional activity of each kidney.

4 grams. of indigo-carmin are suspended in 100 cc. of physiologic salt solution. By injecting 4 cc. of this suspension into the gluteal muscles, jets of strikingly blue urine can be seen emerging from the mouths of the ureters within 20 to 30 minutes. Only a cystoscope is necessary, thus doing away with the urine segregator and making urethral catheterization unnecessary.

The maximum elimination through the urine occurs in thirty minutes, gradually diminishing to the end of the second hour, after which only small amounts can be detected to the end of the tenth hour. The writers claim that we are thus able to determine the type of elimination, the intervals, size, force and other properties of the jets, thereby giving us an easy method, the simplicity and accuracy of which are all that we could desire. Several cases showing its efficacy are tabulated.

LEADING ARTICLES.

THE TREATMENT OF SUMMER DIARRHEA.

For many years it has become a custom to rehearse the treatment of the diarrheas of infancy in medical journals every spring, and in looking over an enormous series of papers published during the last twenty-five years one is struck with the little advance that has been achieved. It is the same stereotyped set of rules, repeated every year with slight modification, according to the inclination of the writer.

Listen to Eberle (1834): "In the commencement of the treatment the intestinal canal should be freely evacuated by a moderate dose of calomel, followed in three or four hours by a full dose of castor oil. * * * The nourishment must consist exclusively of thin mucilaginous fluids, such as gum arabic water, barley water, very thin preparations of arrowroot, tapioca, sago, oatmeal gruel and rice water. Milk seldom answers well in the disease."

Dewees (1836): "We make it a first and positive direction that no animal substance of any kind, or in any form, shall be given in diarrhea, even in the most simple form." He recommended arrowroot, boiled flour, rice water, barley water, gum arabic water, then sago, tapioca and rennet whey.

Calomel in the treatment of cholera infantum was recommended first by Dr. Miller, of New York, in the year 1800. Dewees was a great advocate of its use.

West (1866) also recommends that only water or barley water be given for several hours, yet he allows milk, apparently after the first few hours.

Under the teachings of Henoeh, however, the dietary rules became much less rigid. We quote as follows (Henoeh Lectures, 1882): "Regulation of the diet, without which recovery is impossible, meets with great obstacles in children. It should be confined to meat broths, milk, red wine, soups, eggs, rice, farina and fried chopped meat; all articles which have a tendency to ferment—vegetables, cooked and

fresh fruit, leguminous articles, etc., must be prohibited. * * *
Whether milk is suitable or not must be determined on trial."

Evidently this old master treated children mostly, his experience among infants must have been rather meager.

We fear that we have gone to the other extreme and many an infant is kept on barley water or rice water too long. It is difficult to see how in a severe ileocolitis the infant can overcome the infection located in the intestinal lining by having nothing but cereal decoctions. In addition to meat broths a small quantity of fresh milk, or preferably, human milk, should be added to the starchy solution after the second or third day. The albuminous addition should, however, be small. The milk must be fresh and raw. Sterilized milk serves as an excellent culture medium.

With the exception of bismuth there is no drug which has been added to our list of medicines helpful in this disease that is of any distinct advantage over the drugs used by our predecessors fifty years ago.

THE ETIOLOGY OF SUMMER DIARRHEA IN INFANTS.

We are gradually learning that most cases of summer diarrhea in infants (enteric colitis) is caused by some variety of the dysentery bacillus. From a great many different sources, epidemics in different parts of the United States (Baltimore, New York, Boston and St. Louis) we hear that a bacillus more or less resembling Shiga's bacillus is the causative factor in the severe diarrheas of infancy. True, slight cultural and agglutinative differences have been observed, but these differences are insufficient to establish contradictory evidence, and hence one corroborates the testimony of the others.

Even if we grant that the Shiga or Harris bacillus is etiologically related to summer diarrhea, the subject is advanced but little, since this knowledge has little practical influence, we must learn the source of this micro organism and its method of transport to the human body. It is not enough to state that it is usually carried through the milk supply, since, according to many reports (see Park and Holt), babies fed on condensed milk, proprietary foods, and even breast milk exclusively, are almost as frequently infected as those fed on cows' milk.

Whence comes the micro organism? Never have we known, out-

side of pus cocci, a micro-organism so generally distributed; it is ubiquitous, at least, such is the conclusion from the incidence of cases. Yet one naturely tries to base the spread of the disease from one infection to the other. How the Shiga bacillus can get from the diaper of one baby to the food of another is not at all clear, and yet all these steps must be elucidated before effective prophylactic means can be instituted.

THE "CEREBELLAR SYNDROME."

Before terminating this communication, it is desirable to briefly describe Babinski's "Cerebellar Syndrome." It was in 1899 that this author first called attention to certain symptoms which occur only in lesions of the cerebellum and its dependencies, but it is only very recently that these various signs have received a definite interpretation, and that their practical application to clinical study has been recognized.

The first of these signs (*a*) is the exaggeration of "Volitional Static Equilibrium," which is the faculty by which a person can maintain an extremity in some fixed position without support; this name is given in contradistinction to "Volitional Kinetic Equilibrium," or the power of keeping one's balance during the ordinary muscular efforts, such as walking, running, etc., Normally, kinetic equilibrium is much easier to realize than static equilibrium, indeed, it is much easier to walk than to remain standing on one leg without swaying from side to side. If a normal individual be asked to lie flat on on his back with the legs flexed on the thighs and thighs flexed on the abdomen, a fair degree of separation being maintained at the knees, it will soon be found that a rapid succession of fascicular contractions will appear at the inner or outer aspect of the thighs, and later oscillations of greater range will become manifest. Babinski found that in cerebellar affections: tumor, multiple sclerosis with predominating cerebellar localizations, etc., although the patient at first and on account of the irregularity of his movements, takes a long time to bring his limbs into the desired position, yet once in place, static equilibrium is maintained with remarkable perfection, without muscular oscillations and for a much longer time than is the case in health; the equilibrium almost amounts to true catalepsy.

The second sign (*b*) is "Asynergy," a term employed to denote impairment or loss of "Synergy," which is the normal function whereby the harmonious association of muscular movements is assured. Babinski found that upon asking cerebellar patients to perform certain muscular acts, there was a dissociation of function, a breaking up of the movement into its elementary component parts; for instance, if a normal individual be asked to lie on his back and flex his lower extremity in such a way as to bring the foot flat upon the ground, he will in one single and uninterrupted muscular effort cause his foot to recede until it assumes the required position. If such a test be tried with a cerebellar patient, he will in the first stage forcibly touch the buttock with the heel, and in the second stage strike the floor with the planter surface of the foot; there is thus a decomposition of movement, which seems to occur only in lesions of the cerebellar apparatus. A great many similar tests with the arms and legs, reveal this same phenomenon of dissociation.

The third sign (*c*) is a well-marked diminution of "Diadochokinesia."

Babinski applied this term to the normal power of rapidly and alternately bringing a limb into opposite positions, as for instance, the rapid succession of pronation supination of the hand and forearm. It has been found that in cerebellar affections, the diadochokinetic function is greatly impaired, a decided diminution in rapidity being generally present; sometimes it is impossible for the patient to alternate these movements, even very slowly.

There is yet so little known concerning the physiology and pathology of the cerebellum, that these three signs deserve proper attention and careful study; they exist only in disorders of the cerebellum, and are therefore of the greatest interest and importance, not only from the standpoint of diagnosis, but also from that of localization.—*Many Medical Annals.*

EDITORIAL COMMENT.

Missouri State Medical Society.

The Forty-seventh Annual Meeting of this Society convened in the Young Mens' Christian Association Building in this City, Tuesday, May 17th at 9 a.m., and was one of the best attended, most interesting and successful in the history of the Society. Members from all parts of the State were in attendance and manifested great interest in the proceedings. The President, Dr. Wm. G. Moore, of this City, presided in his usual efficient and pleasing manner.

The first day was consumed in rendering the program as previously outlined. The discussion on Tuberculosis was quite good. Dr. Dalton's paper brought out several points worthy of due consideration. The monograph of Dr. Zahorsky was very interesting and showed careful application and study. Many points of doubt have been elucidated.

The President's address was one of the features of the second day's session, and was one full of truth, wit and humor. As is well known, Dr. Moore holds the interest of his listeners as if by magic. He mentioned many of the recent advances made in medicine during the past year and referred to the noble and life-saving work performed by the Yellow Fever Commission in Cuba some time ago. The chemical analyses of many of the preparations so extensively advertised in the daily press, monthly periodicals, etc., were exposed by him and most severely criticized. The step forward taken by Mr. Edward Bok of the *Ladies Home Journal* in refusing to accept any advertisements from such companies was most highly commended. It was voted by the Society that Dr. Moore be especially thanked for his excellent and able address, and that copies of the same be made and freely distributed. Every member present felt that the President had sounded and voiced their true sentiments.

The remaining hours of the second day's session were devoted to Appendicitis. The monographs of Drs. Mudd and Tupper were especially interesting. The discussion was very free and brought out many excellent and important points. The monographs should be read to be appreciated.

The third day was devoted to rendering the unfinished program of the previous day. Dr. James Moores Ball gave an excellent address, with lantern-slide pictures which were both interesting and enjoyed by all.

The fourth day was consumed in presenting the third day's program and a part of the fourth. Several of those scheduled to read memoirs were absent. It was found that time would not permit the rendering of the full program, hence the remaining monographs were placed in the hands of the Society and will be published in the *Journal of the Missouri State Medical Society*, which later will be organized and become the official organ of the Society.

Dr. Jabez N. Jackson, of Kansas City, Mo., was elected President for 1905. At 2:30 in the afternoon an automobile ride was given the members, which was most enjoyable. Friday evening a grand reception was given in the Missouri State Building at the World's Fair, under the auspices of the St. Louis Medical Society. The building was beautifully decorated and the fountain was in full operation. Every member present had an excellent time. Refreshments were served, and the St. Louis Medical Society did itself proud and congratulations are certainly due the Committee.

The Deadly Toy Pistol:

It is only a few more short weeks until the toy pistol, blank cartridge and giant crackers may be found in the pockets and hands of the small boy who desires to celebrate the grand and glorious Fourth. The lad does not realize that he holds the emblems of lock-jaw, death, sadness and desolation in the palms of his tiny, untrained and innocent hands. The parent listened to the pleading child and finally granted the request.

The manufacturer seems to ignore the fact that thousands of human lives have been annually sacrificed as a result of his product. Could he but see the sadness, terrible suffering and death of friends and loved ones, the most tender cords of his heart would echo the wailings of the heart broken mother whose only son, perhaps, lies cold and lifeless—a victim of his product.

When it is too late the law-makers come forward and pass suitable measures by the score, but by the dawn of the next celebration these laws are forgotten and are not enforced.

To the editor of the *Journal of the American Medical Association* the entire world owes a debt of gratitude for the compilation of statistics showing that in 1903 more than 406 deaths and 3,983 injuries resulted from the use of the toy pistol, giant cracker and blank cartridge. He further showed that the laws had been completely ignored or none were present.

We would but ask every member of the medical profession the question: Are you going to stand idle and see thousands of lives perish when it is in your power to prevent it? Then, go forward and bring the matter before your local society and demand that the laws be enforced. If such laws do not exist, draft them and send to the proper authorities. Publish them in the daily papers and do all in your power to advance this particular branch of preventive medicine. *Lockjaw from such causes can and must be eradicated.*

It is now high time to act; do not delay, for delay means sadness, death and desolation. Do your part and do it *now*.

It is not our desire to place a damper upon national patriotism but we deem it absolutely necessary that the public be educated as to the necessities of the situation and try to rob this day of its terrible death-list.

We would urge the prophylactic administration of antitetanic serum, the thorough cleansing and cauterization of the part at site of the injury and the securing of good drainage. In every instance where injury has been received the physician should be called and the slight injury should receive the same care and consideration as one of a more extensive character.

Typhoidal Perforation.

It is really astonishing to think that more than 16,000 cases of typhoid fever perish annually in the United States as a result of perforation. During 1903, not more than 339 cases were subjected to operation. These figures are simply evidence that in many cases we do not watch our patients closely enough and do not call in the surgeon until too late.

Typhoidal perforations generally occur between the middle of the second and the end of the fifth week, but may occur at any stage of the disease. The last twenty inches of the ileum is the most frequent site of perforation.

Several recent valuable memoirs lay special stress upon :

1. Sudden, severe abdominal pain, which usually persists.
2. Muscular rigidity—greatest in the region of perforation.
3. Thoracic respiration.
4. Localized tenderness, and,
5. Lowering, to a greater or less degree, of the temperature, as quite indicative of perforation.

It is often quite difficult to differentiate between hemorrhage and perforation; but the blood analysis will be of great service in making the differential diagnosis. Some surgeons maintain that there is usually a drop in the temperature when perforation occurs, but that is not always detected.

We believe that every physician should be fully conversant with the symptoms and signs of perforation and should ever be on the watch—every change in the patient's condition should be carefully investigated. The physician should insist upon having an efficient and trustworthy nurse, whenever such is possible to obtain, in every case of typhoid fever. He should instruct the nurse to watch for symptoms of perforation and request that no sedative be given to obscure the symptoms, since a perforation that is neglected or not detected means the *loss of a human life*. We realize that the country practitioner must depend upon the friends and relatives of the typhoid patient; in such cases he should explain fully so that they will realize the true situation and notify him immediately of any change occurring between his visits.

Whenever the attending physician finds the least indication that a perforation is imminent or that it may have occurred, it is his sacred duty to call in a competent surgeon. It is far better to have the surgeon say that no perforation has occurred than to say that the patient has a suppurative peritonitis—*delay means death*. It is only the cases operated upon early in which favorable results can be expected, although every case should be given immediate attention unless moribund.

Hospital for Washington University.

The Annual Commencement of the Medical Department of the Washington University was held in Memorial Hall, Nineteenth and Locust streets, Thursday evening, May 19, 1903, and was largely at-

tended—the Hall being crowded. Sixty-five graduates received the degree of Doctor of Medicine. The Valedictory Address by Dr. J. W. McGee, President of the American Anthropological Association, on "Primitive Medicine," was heartily received.

Dr. Robert Luedeking, Dean of the Medical Department, delivered a very pleasant and witty address which was enjoyed by all present.

Dr. Luedeking stated that through the kindness and benevolence of Messrs. Robert T. Brooking, Samuel Cupples, Samuel Kennard and others, it had become possible for the University to tear down the Polyclinic Building on the corner of Jefferson and Lucas avenues and erect a large modern hospital building of 100 beds. The hospital will be ready for occupancy by September and will be devoted entirely to medical instruction. Washington University is certainly to be congratulated since it thus gives the students the very best opportunities possible to obtain anywhere in the United States.

From elsewhere it has been learned that the University is contemplating the erection of a large modern hospital in the western part of the city. It will thus be seen that the University realizes that the best results can only be obtained when the hospital is under the complete control and direction of a faculty that is abreast of the times and makes every advancement possible.

The requirements for admission to the Medical Department of Washington University are the same as those of the best Eastern colleges.

DIAGNOSTICS.

In Charge of W. L. JOHNSON, M.D.

The Diagnostic Significance of Certain Reflexes and Tendon-Phenomena.

Oppenheim (*Med. Record*) says he has known two or three normal individuals in whom from early youth the knee reflex could not be obtained. There are cases in which this is lacking in children of syphilitic parents. Obesity obscures it. Certain diseases of the knee-joint, a very short and rigid patellar tendon may make it hard or impossible to obtain it.

The heel phenomenon may be elicited in a kneeling position when it can not otherwise be obtained. It is a constant reflex in health. Sciatica may cause its disappearance, even after recovery. Deformities of the feet, inflammatory affections of the ankle-joint may affect it. Its absence, except in these cases, helps to establish an incipient tabes dorsalis, since it frequently disappears long before the knee-phenomenon. It consists in plantar flexion of the foot upon tapping the tendo Achillis. Babinski reflex is first found in spastic paraplegia of both spinal and cerebral origin, and especially the former. It is found in combined and lateral sclerosis, Freidrich's disease and the combination of tabe dorsalis with hemiplegia.

Under such conditions the hypertonic influence brought about by degeneration of the pyramidal tracts can be fully compensated, an atony can develop, the tendon reflexes can fail and of all the symptoms of disease of the pyramidal tracts only one remains—that of Babinski.

When the pyramidal tract in the brain is involved, as in the usual form of hemiplegia, Babinski's symptoms is, as a rule, present.

Oppenheim reminds us that Babinski's symptom in the first year of life is due to the child's being born with undeveloped pyramidal tracts, and refers to his sign, which is applicable in many cases, where Babinski's is not certain. It consists in stroking the inner surface of the leg, with either the thumb or handle of a percussion hammer, or by pinching a fold of skin on the inner surface of the leg, when either no reflex movement will follow or a flexion of the toes will result.

Black Urine.

Garrod (*The Practitioner*, March 1, 1904) finds that urine which is black or which may become black may be excreted:

1. In cases of jaundice, especially of long standing.
2. In cases of hematuria.
3. In cases of hemoglobinuria.
4. In cases of hematoporphyrinuria.
5. In cases of melanotic sarcoma.
6. In cases of alkaptonuria.
7. In cases of ochronosis.
8. In cases in which abundance of indican is present.
9. In cases of phthisis, only after standing for a long time.
10. In certain rare diseases of undetermined nature.

11. After ingestion of certain drugs and articles of diet (including carboluria).

When due to jaundice the usual tests of bile pigment will at once reveal its nature.

The blackness in hematuria is merely an exaggeration of the smoky tint and is due to the presence of much of the contained blood-pigment in the form of methemoglobin.

The term "blackwater fever" bears witness to the character of the urine, which may result from the presence of hemoglobin.

In hematoporphyrinuria the color of the urine usually resembles that of port-wine. Urine, whatever its reaction, never shows the spectrum of acid hematoporphyrin unless a mineral acid has been added to it.

True melanuria, associated with melanotic sarcoma, is a rare condition, for melanotic sarcoma is itself an uncommon disease.

In melanuria the urine has usually a normal color when passed but the darkening takes place from the surface downward when exposed to the air.

Ferric chlorid or nitric acid causes the cold urine to become black immediately.

In alkaptonuria the urine has the normal appearance when passed but darkens from the surface downward on standing—the addition of an alkali hastens the process. Such urine reduces Frehling's solution with the aid of heat and ammoniacal silver-nitrate solution in the cold.

In indicanuria the color is due to the higher oxidation-products of indol. Thick urine blackens when HNO_3 is added to the cold as with true melanuria but there is no such immediate blackening.

Black urines with tubercular diseases seem due to the indicanuria which is especially apt to occur in cases of phthisis.

Damson plums, resorcin, hydroquinin, rhubarb and senna may cause black urine. In carboluria the diagnosis can be determined by adding barium chlorid to the urine after boiling the urine with hydrochloric acid. A copious precipitate of barium sulphate is obtained. Mention is made of the fact that the color-reaction of phenol with ferric chlorid is not obtained in cases of carboluria.

Early Symptom of Severe Appendicitis.

Moszkowicz (*Muen. Med. Woch.*, *J.A.M.A.*, March 5, 1904)

calls attention to the serous effusion in the abdominal cavity, which he has found a constant accompaniment of the severer cases of appendicitis. Out of 46 cases an effusion was found in the abdominal cavity in 27, and in the others it may have existed and retrogressed prior to operation. He believes that this serous effusion is frequently the first sign of impending trouble, before he shows any other symptoms indicating a severe involvement, and liable to occur while he still feels well. When it is found, it should be regarded as the precursor of diffuse suppurative peritonitis, a signal for operation at once.

A New Typhoid Diagnosticum.

Fisher (*Berliner Klin. Woch.*, No. 45, 1903) has succeeded in establishing a substance enabling one to perform the Gruber-Widal reaction without a typhoid culture. This reagent, which retains its property at least nine months is obtainable from the Merck firm in Darmstadt. The reagent dispenses with the aid of the bacteriological laboratory in making a Widal test, and the result can be detected with the naked eye at ordinary room temperature within ten to fourteen hours.

THERAPEUTICS.

In Charge of PHILIP NEWCOMB, M.D.

Serum Therapy of Typhoid Fever.

Einhorn (*Med. Record*, January 16, 1904) reviews the evolution of the antitoxic typhoid sera from the first successful experiments of Chantemesse to the present time. The observation of a hundred cases of typhoid fever published by the latter in 1901, led to the conclusion that his serum seemed to possess a specific action, shortening the duration of the disease and diminishing the mortality in the cases so treated from the 10 to 20 per cent, found in other Paris hospitals, to 6 per cent. As in diphtheria, the antitoxic treatment to be effectual must be begun early and is justifiable even in cases in which the diagnosis is not yet certain, since there is absolute absence of danger from the procedure. Chantemesse declares, however, that the resemblance in action to the antitoxin of diphtheria cases here, since in this disease the organisms are expelled from the throat and the infection diminished,

while in typhoid fever the bacilli infesting the internal organs can not disappear until surrounded and digested by the phagocytes. Therefore, these microbes may be destroyed by the action of the serum, but if any escape, multiplication of these latter may ensue and a relapse result, a condition which hardly ever occurs in diphtheria.

Jez made another step forward in the preparation of an organic extract from the spleen, thymus, bone marrow, brain and spinal cord of immunized rabbits, and which was suitable for administration by the mouth, thus avoiding some of the complications occasionally arising from subcutaneous injections. This extract was demonstrated to be harmless, even in large doses, and since it possessed specific therapeutic value in typhoid fever only it serves also as an aid in differential diagnosis. If given uninterruptedly in typhoid fever—it decreases the temperature, strengthens the pulse and shortens the duration of the disease.

Eichhorst reports excellent success in twelve cases by the use of the Jez extract and DeMesnil had good results in a large number of typhoid patients with a serum prepared by the Burne Board of Health under the direction of Tavel and Jez.

The serum prepared by Bokenhaus, Walker and Ewing is mentioned, but is unsupported by clinical reports. Widal is a doubter as regards a specific curative action of any of the proposed agents and states the following conclusions:

1. Except for diphtheria antitoxin no serum seems to have given the results which laboratory experience would warrant us to expect in man.
2. It seems all the so-called antitoxic sera act not upon the microbes nor the toxin, but upon the cells of the organism, which they aid in their combat with the microbes.
3. There, the sera of immunized animals do not seem at present to have any certain specific action, but only a general tonic effect.

Einhorn, therefore, in view of these conflicting opinions determined to personally investigate the question of serum therapy in typhoid fever and in a limited number of cases employed the antityphoid serum of Jez and Tavel, of the Burne Board of Health, giving it, however, by subcutaneous injection with a smaller dosage, in the expectation of more striking results. As soon as a positive Widal reaction rendered the diagnosis certain, all medium, grave or severe cases were

subjected to the daily injection of 6 to 12 cc. of the serum until such time as the temperature remained under 100°F. Light cases were ignored and in all the diagnosis was absolutely certain.

His cases so treated leads to the conclusion that in most instances the disease is not materially shortened but the general condition, especially the nervous and sensory symptoms, are much improved and a more rapid and safe convalescence is insured, while at the same time a temporary reduction of temperature is secured. In no instance did the numerous injections cause any trouble; abscesses never followed, but in two cases a transitory local erythema was observed at the site of injection and one patient experienced chills of short duration after the procedure.

Einhorn believes from his own experience that the serum treatment of typhoid fever is of decided value and that yet more favorable results will be obtained in the future with sera of higher potency.

Treatment of Intestinal Parasites.

Gerhard (*Med. News*, November 14, 1903) outlines a treatment for cases of tapeworm which he considers far superior to the majority of methods employed in this condition, since the use of large doses of nauseous mixtures is avoided and the detention from business is relatively brief. Furthermore the loss of a single meal—breakfast, of the day of the attempt, is sufficient preparation when preceded by one or two large doses of castor oil or a saline on the day previous.

The specific medication consists of two drugs, resin of male fern and pelletierin, given as follows. Early in the morning 20 grains of pelletierin tannate is given in two capsules at one dose and is followed in a couple of hours by the administration of this mixture:

R_x Oleoresinæ aspidii..... 3ij
 Aetheris.... fl 3ij
 Hydrarg. chloridi mitis..... gr.xij
 M. Et.div. in caps. No. xvj. Sig.—Two capsules every ten minutes.

The author claims this method results in the expulsion of the worm in two or three hours' time, and does not allow any recurrence, since the head accompanies the body of the parasite. Depression from this treatment in the author's experience never lasts longer than two hours.

In a comment upon the above treatment it is pointed out (*Therap.*

Gaz., February 15, 1904) that the dose of pelletierin advised by Gerhard is about twice the maximum dose usually considered advisable but the author records no untoward manifestations of any kind in his series of cases.

Another class of intestinal parasites receives attention from Neumann (*Deut. Med. Woch.*, No. 4, 1904). In a number of cases of ancylostomiasis among the coal miners he obtained excellent results from the use of podophyllin in doses of gm. 0.035 twice a day for a period of three days. The fourth day showed the stool free from the ova of the *uncinaria duodenalis*, although several of the patients had not responded to treatment with calomel and male fern. Neumann claims as additional advantages for his treatment the convenience and facility of administration and absence of any toxic symptoms on account of the small dose of podophyllin employed.

Early Treatment of Acute Appendicitis.

Lyon (*La Presse Medicale*, October 28, 1903) is of the opinion that the early stage of acute appendicitis offers a favorable field for the employment of medicinal measures.

His plan interdicts all food and drink for the first forty-eight hours and enjoins absolute rest together with ice to the region of the appendix. In this interval purgatives and enemata are both considered unwise, since by their agency rupture of the appendix and invasion of the peritoneal cavity result or the formation of adhesions and consequent localization of a peritonitis may be prevented. If a decline in temperature does not ensue nothing but water is given for some days but in cases responsive to the above procedure milk is allowed on the fourth day. An enema of olive oil may be given on the third or fourth day to be followed in about forty-eight hours by two or three teaspoonsful of castor oil.

Lyon advocates operation in from four to six weeks after the onset of the initial symptoms, the patient meanwhile being kept in bed, since recurrence is usually the rule after the first attack. He regards this treatment as most efficacious in first attacks of appendicitis if begun within a few hours after the appearance of the symptoms and in which no other drug treatment has been undergone.

SOCIETY PROCEEDINGS.

MEDICAL SOCIETY OF CITY HOSPITAL ALUMNI.

*Meeting of March 3, 1904; Dr. Charles Shattinger,
President, in the Chair.*

Dr. JOSEPH GRINDON read a paper (see page 321, this issue) on

**Treatment of Non-Malignant Diseases of the Skin
by the X-Ray.**

DISCUSSION.

Dr. ENGMAN said that during the last three or four years the x-ray had almost revolutionized the therapy of dermatology. There are so many diseases in dermatology that relapse so frequently, that the diseases that were formerly incurable, since the x-ray has been used have been found amenable to treatment. In lupus he had never had opportunity to try the ray, but in Chicago, where they have more lupus than they do here, and especially in the offices of Drs. Pusey and Zeisler, he had seen cases that seemed to be cured, but he considered the essayist's case the most remarkable that he had ever seen. He had treated a case of follicular lupus of the chin which, after a long treatment, had gotten well. He said that he desired particularly to make a few remarks on the treatment of acne. It has been heretofore a disease over which the dermatologist has had little control. Some light has been thrown on the subject by Sabouraud and Gilchrist and and it is probable that it is a true infectious disease. The speaker said that he had never seen a case of acne markedly benefited by internal treatment alone. The patient may get entirely well by going away in the summer and getting sunburned. The cure may be due to the action of the actinic rays. It is always desired to bring about desquamation. For this purpose resorcin, sulphur, mercury and other drugs are used for their irritating effect. This is particularly true of the rapid treatment of Unna or Lassar in which there is a deep scaling

of the skin following which the nodules flatten down or disappear. The results are very marked, and was a favorite method with the speaker before the x-ray. There is produced a leukocytosis and all the marks of inflammation. Possibly there is a destruction of the invading organism. Although this organism may not be the cause of the disease it is a fact that has to be contended with. One of the effects of the x-ray is to produce a leukocytosis. This is the first effect. To this action of the x-ray is due the beneficial effects in the treatment of acne.

He said that he had lately been working on this subject of the treatment of acne with the x-ray, having treated forty-eight cases. In the last two years he had made some 7,000 exposures. During that time he had become thoroughly familiar with his tubes. He used a stop watch to mark the time, had a trained attendant with the patient all of the time during the exposure and a record was kept by this attendant of the distance, etc. It is known that effect of the rays is dependent upon the distance of the tube and time of exposure, and by using care the x-ray is an effective remedy in the treatment of acne. One advantage is that it does not necessitate much treatment on the part of the patient. They go to the office, take the treatment and that was all that was necessary.

The speaker said that of course he looked after their general health, gave them tonics if needed, iron, or whatever might be indicated, and along with the x-ray he gave some mild lotion, prescribed the use of salicylic acid soap, but in the x ray treatment it is necessary to avoid any irritation from the application of remedies for then it would be impossible to tell whether the resulting dermatitis was due to the x-ray or the irritating remedies. At the first appearance of the least redness he stops the treatment. To get beneficial results it is not necessary to bring the patient's skin to an active dermatitis. He had never found it necessary to redden the skin and he secured excellent results by being careful and not bringing the patient to that stage. Some leading writers, however, advocate bringing the patient to a slight erythema. There are cases in in which atrophy of the skin has occurred from active treatment.

A case of his had gone to another city and continued the treatments there. When the patient returned to St. Louis the acne had almost stopped but there was a slight atrophy. He had the treatments

stopped at once and put the patient under a masseurs charge. She finally recovered. Although the results are a little slower it is best to give the treatments in such a way as not to increase the irritation. Increase the exposure minute by minute. Curetting by the method of Fox is often of assistance here. On the days he currettes, the speaker said he did not use the rays, because it has been remarked by several writers that additional irritation seems to lessen the resistance of the skin. Another thing that he had noticed was that mild repeated doses of the ray were stimulating, and in the treatment of acne those papules on the inside of the circle of the rays would undergo involution and those where the rays were less intense would rapidly increase. He felt sure that the x-rays must have a stimulating effect on such tissue. He said he believed the x-ray to be at present the best treatment for that stubborn disease—acne vulgaris. It was refreshing to hear Dr. Grindon confess failures, as physicians must and should. The ray is not a panacea. It is a dangerous remedy when carelessly handled. All reports of favorable results should contain a warning of the danger, for it should be handled with the greatest care. He believed that injuries resulting from the x-ray were due to lack of care in giving the treatment rather than any idiosyncrasy on the part of the patient.

Dr. DUNCAN said he had used the x-ray considerably during the last two or three years, largely in the treatment of malignant disease of the skin, however. During the last eighteen months he had also treated a number of cases of non-malignant disease of the skin. He had not attempted to lead in experimenting on a great many diseases but had simply followed where others had led, and the diseases he had most experience with were lupus vulgaris, acne, eczema, lupus erythematosus and hypertrichosis. He gave his experience and views as to the relative value of the rays in such cases. He had used it in but two cases of lupus vulgaris and he called attention to the stubbornness of the disease. In one case, which yielded to the treatment, after a year the lesions have returned. In a case of lupus erythematosus there were no permanent results, the improvement lasting only a few weeks or a month.

When Zeisler said that he had quit the use of everything except the ray in the treatment of acne, Dr. Duncan could not understand how he could talk in that way. Physicians have been taught so long that acne is largely a manifestation of a general condition that he found it

difficult to understand Dr. Zeisler's position. But when he saw so often reports of cures of acne he could not but try the ray and of all the therapeutic methods he found the ray the most efficient. He has had patients that he treated five years ago with the old methods, with improvement and relapse, and he has treated them since with the x-ray and not only was the improvement great but it was permanent. It seemed to him that whenever a cure was made with the x ray it was more permanent, as a rule, than a cure by any other means. If the patient, after a careful interrogation, seems healthy, not especially constipated, no especial indigestion, and looks well, he does not diet as he used to do, gives them nothing, probably internally, but may use some local application. He does not use the curette. He mentioned the case of a young lady who had been treated here and who later went to Europe, where she was scaled, but the disease returned. After she came home Dr. Duncan tried the x ray and she is better than he has known her to be for five years.

He said he was surprised that neither of the gentlemen had said anything about eczema. His experience with the x-ray in localized, infiltrated patches of eczema had been that there was nothing equal to it. He said he could recall cases of eczema of the palm, of the back of the hand, of the popliteal space and of the ankle that he had treated with the x-ray, all showing marked improvement, some resulting in a cure. The ray relieves the itching, relieves the infiltration and cures the eczema. He has a case now that he treated in the old way, with relapses and improvements. The patient has had eight exposures and the results are wonderful. Hypertrichosis was the only condition in which he had ever had a sad experience. In hundreds of cases, with thousands of sittings he had never had one severe burn. This lady was the wife of a physician and Dr. Duncan never saw her after the burn. He treated her for hair on the arm and he understood that there was a severe burn, so severe that there was sloughing. He had removed hair from the faces of two other ladies without bad results before he treated this case. He said he would never again use the x-ray to remove hairs from the face unless it is an actual deformity. He was careful with that arm as he had ever been in his life. He timed exposure by the watch and took special care as to the distance of the tube and by referring to his record book he can not see where he failed in carefulness in any particular. Yet it produced a severe burn. In view of this experience he felt that if there were only a few hairs they

could be removed by the electric needle, or if it were a deformity, he would use the x ray, but unless it were an actual deformity he would not run the risk of producing on a woman's face what he had understood he produced on this arm.

He thought the x-ray would be useful in a great many other diseases of the skin and mentioned a case of blastomycetic dermatitis which had come to him from the country. The patient was a farmer who had stuck his hand with a nettle. The disease was all over the hand and microscopic examination revealed the yeast fungus.

Gilchrist reports a case in a negro cured with potassium iodid and for some reason the doctor who brought this patient to him had had him on the potassium iodid treatment. The patient felt that he was improving faster than the doctor thought he was, so he suggested that he return home and continue the potassium iodid and have the doctor curette. The man was improving on a medicine that had cured a case for Gilchrist so the x ray was not used.

The speaker said that he felt the greatest care should be exercised in the use of the x-ray, not that it is so very dangerous but almost any man who has had much work to do will give a history of some bad result. The x ray is getting somewhat into disrepute from its use for everything. He said that the more he used the x ray the more he used it as an adjunct. It can not take the place of surgery by any means. There is hardly a week that he does not refer back to the surgeon some patient who has been sent to him.

Dr. BRANSFORD LEWIS said that he would like an expression of opinion on a case that he had had last fall. He had a patient the subject of ureter calculus and wanted an x-ray picture. Several exposures were made and he had operated about a week later. The calculus was gotten rid of and the man made a good recovery and returned home. Later his wife wrote to Dr. Lewis about a hollow place below the rib on the left side. Dr. Lewis said that after hearing the discussion on the effects of the x-ray, it had occurred to him that possibly there was more atrophy of the muscle resulting from the x-ray; so he asked an expression of the essayist on the subject.

Dr. GRINDON, in closing, said that he agreed heartily with Dr. Engman in what he had said about acne. He felt that the internal treatment of acne is only of value as is improvement of the general condition in any other disease. When a patient goes to a dermatologist, if there is indigestion or constipation he remedies that, for it will

help the patient in a general way. He considered scaling off of decided benefit, and sometimes began treatment by scaling off, believing that the duration of the case might thus be shortened: When this was done he did not use the ray until the consequent irritation had subsided. He also agreed with Dr. Engman in considering the disease as local. He did not believe that the ordinary pus cocci were the agents.

Gilchrist thinks he has found an acne bacillus, and believes that the constipation and dyspepsia which often attend acne are not the cause but the effect of acne, *i. e.*, by the absorption of the toxins from the skin the general health is lowered. In only one point did he disagree with Dr. Engman, who seemed to think that idiosyncrasy in the production of burns had been exaggerated. The speaker indeed, had noticed that a tube that had acted one way on one day would act differently on another day, but he had been forced to the conclusion that there is such a thing as idiosyncrasy. He did not know how else to account for Dr. Duncan's case of a severe burn. There must have been such an idiosyncrasy in that case. Some people are wonderfully refractory to the rays. In some cases there would be no dermatitis, and in others in which he used less active tubes, and shorter exposures at a greater distance, there would yet result dermatitis.

Of three men who go fishing, one will return with a sun dermatitis, one will be tanned brown and the third will not be affected at all.

Referring to Dr. Duncan's case of blastomycosis, the speaker said his case had refused to heal under potassium iodid. The ray gives rapid results in some cases and utterly fails in others. This case received a thorough course with no effect, while of Hyde's two cases one was cured after twelve sittings and one after sixteen.

Replying to Dr. Lewis' query he said that from everything he had ever known of the x-rays he could not believe that two short sittings would bring about a deep atrophy of muscle tissue.

*Meeting of March 17, 1904; Dr. Charles Shattinger,
President, in the Chair.*

Dr. L. H. BEHRENS presented a patient with

Cardiac Lesions,

and said that he had seen the patient that day for the first time; he presented the case because there was present an interesting phenom-

enon though without much interest as regarded the lesion. There was an aortic lesion with regurgitant pulse and the characteristic throbbing of the arteries. At the first sound of the heart on the left side there was a distinct buzzing that sounded like a factory at work. He said that the sound was the most intense that he had ever had the pleasure of listening to, probably due to a buttonholing of the valve, and he presented the case for this reason.

Topographical Anatomy of the Thoracic and Abdominal Viscera.

Dr. PETER POTTER.—We are told that anatomy is a closed book and the man who made the statement is not so far wrong. However, the statement must be modified on account of the changed conditions which have arisen during the past few years. There is still a little that has not been done. Men have not found out all that is to be learned in several fields and of those fields, I am particularly interested in gross anatomy.

A body to be of use for dissecting must be left flexible. In preparing a body for section work we use formalin solution, strength 50 per cent, or else equal parts of formaldehyd and water or one part of formaldehyd and two or three of water. A body injected with 50 per cent formalin solution becomes firm and very flexible. Every organ retains its position and exact contour. The formalin is always injected into the arterial system. The organs are seen in the identical form and relation they were in when each organ was acting upon all of its neighbors and being acted upon as well. When an organ was removed from an unhardened body there was nothing to base the statement on that that organ retained the shape it was in originally. Most organs are pliable enough to flatten out when placed on the table. The liver, for example, when placed on the table assumes an entirely different shape, and this is true of every other organ to some degree. The brain changes its shape in the same way, but if injected with the formalin solution it retains its shape and can be handled. The great gain in the use of formalin solution is the body becomes fixed and can be handled, and the organs, when removed show the outlines and depressions that are normal, thus it is possible to gain an intricate knowledge of the body it was formerly impossible to attain. Formerly the work had to be done in a very few days and it was a race be-

tween the anatomist and the germ as to who would get through with the organ first, and as the organs did not retain their shape it was not possible to get an accurate knowledge of their relations. In Gray, for example, not a single organ was ever given from actual measurements made upon any single body. The authors and collaborators, after many dissections and post-mortems, sat down to write a text-book. As a geologist maps out a country, so must the the anatomist map out the surface of the body. Until the anatomist has done this it is impossible to say that certain organs bear a fixed relation to other organs. If the measurements of the spleen are made on one body, the kidneys on another, there is no possibility of accuracy, for the organs are interdependent.

• In these maps I have here to-night I have attempted to show the relation of one organ upon another. I made a set of measurements upon a body that came into the dissecting room of the University of Missouri about three years ago. The man was a negro, about 30 years of age, in the bloom of health, weighing 190 or 200 pounds, 6 feet in height, who was suffocated while cleaning out a well. There was no surplus fat and there were absolutely no blemishes on the outer surface to indicate that there were any pathological conditions. The body was injected with 50 per cent formalin solution shortly after death and was soon firm and rigid and ready for use. The head and appendages were removed and the trunk cut into twenty-five horizontal sections. This was the first time I had made sections for myself and they were not so carefully made as I would make them now if I were to do the work over again. The sections were made as nearly as possible the thickness of a vertebra. These sections were drawn as carefully as I was able to do under the circumstances by laying glass over the section and tracing it out with India ink, which was used because it does not spread and a very definite outline can be had. The next thing was to identify the parts. The section was laid upon a flat surface and the drawing was made and we were then ready to begin the study of it. The sections were made three years ago and are almost like shoe leather, as they have been used over and over again. Blue prints have been made from the drawings themselves and are more easily handled than the drawings. Of course, it was considerable work to get a complete record of all parts of the body, but that was the mere beginning. I wished to learn the exact position of every organ

and every part of every organ and its relation to all of its neighbors. The glass was ruled off in centimeters with a large heavy line in the middle, with the median line of the plate across the middle of the section, with the lines crossing different portions of the body with each organ at that particular level. The sections were then all piled up in their normal position and measured along the median line. After measuring all the sections in which the lung appears; for example, all we have to do is to connect the different parts to get the measurements of the lung. Cross lines represent where the section was cut, solid lines represent the skeleton; a long, heavy line, the lung; a dash and dot, the aorta, etc. Looked at when each of the sections are connected it is as the body would appear if it were transparent and you could look through it. Each organ has been colored differently, *e.g.*, the lung is green and can be seen overlapping the liver, which is yellow.

When I came to make the measurements I found some of my sections not exactly horizontal, some the sections were lower in front than behind, and I had to make corrections for every measurement. To do this I found the exact level of the posterior line, the exact level of the front line, then, if the difference were 2 cm, I raised the front 1 cm. and lowered the posterior 1 cm. so that the amount of error due to obliquity was corrected in every case. For every measurement there has been a correction, though sometimes only a millimeter. The intention has been to measure as closely to a millimeter as possible and not a single item was allowed to pass by that would affect the accuracy. It would be a difficult matter to cut the sections absolutely horizontal, though I could have taken more pains when I made the sections. I did not realize the amount of error. The different points were made on the body, lines were drawn around and the sections cut with a large knife and saw. I find that decalcification pushes the parts apart; as it is they have sufficient frame work to hold them together. I have abandoned it for student work.

In a decalcified body the microtome would be of great value. We attempted not long ago to encase a fetus in paraffin, but we found that the paraffin had retracted from the body. So far we have found no means of holding the body but by having assistants hold it while making the sections. If any loose parts were found they were put into position and stitched there, so that when the drawing was made it was reasonably certain that the parts were in their normal relation.

DISCUSSION.

Dr. SHARPE said that an enormous amount of work had been necessary for Dr. Potter to be enabled to bring before the Society these tangible results. He had been specially interested in the method by which the sections had been procured and appreciated the difficulties that had to be encountered. For the purpose of demonstration it is not a matter of much importance whether the section be a quarter of an inch thicker posteriorly than it is anteriorly, or the reverse, but for the purpose of determining definite anatomic relations it is a matter of great import. It is, therefore, necessary that every effort be expended to get the sections as nearly mathematically exact as possible. Notwithstanding the excellent results already secured, considerable improvement could be made, and it was an open question whether that improvement could be better made by sectioning with the body in horizontal, or in a vertical position. If one felt that he could do better work with the body in a vertical posture, it would be advisable to erect an appropriately slatted frame in which the body could be held immovably in the original position. In that way it would be possible to get fairly accurate sections, though he doubted whether it would ever be possible to get sections mathematically exact. When desired to make the sections with the body in the horizontal position it should be placed in a suitably slatted casing of wood or metal, filling around the body with some mass. If paraffin persists in shrinking, gutta-percha could be used to advantage, or, fine sawdust or sawdust impregnated with starch or gutta-percha. He further suggested the use of moist clay or putty well tamped around the body, sections to be made before the mass becomes hard. If the mass is permitted to harden it should be sown through, when the body is reached it may be replaced by a knife. That would not be at all necessary if the sections were to be prepared for class-room demonstration, but accurate data regarding the size and relation of the viscera is sadly needed and no effort should be spared in the search. Errors could be corrected as they had been in this case, but it entails a perfectly enormous amount of work, and even then one can not be sure that the corrections themselves be correct.

Dr. Potter's work was worthy of high praise. It did not seem to the speaker that the criticism made by Dr. Potter, that a decalcified body seemed to lose its cohesive power, as evidenced in sectioning

was correct. Even if correct, this relative flabbiness of the sections would be a serious bar only in class-room demonstration; on the other hand, it will be found that in gross serial sections made for determining topographic relations where great accuracy is needed, but the process of sectioning is much easier when a preliminary decalcification has taken place. A further advantage lies in the diminished thickness of the knife-blade needed, owing to destruction of tissue (by tearing), saws should not be employed in work of this character. In closing, he alluded to the excellent work of Prof. Terry, much of which was done with a long-bladed knife, operating over a case in which the body was controlled.

Dr. KANE said that he regretted that such teaching of anatomy was not in vogue in his student days. It presented much of interest from the view point of one going actively into surgery. As to the best method of correcting the small errors mentioned, he supposed Dr. Potter was more competent than anyone else. The method suggested by Dr. Sharpe was only the old carpenter miter-box. If the body could be imbedded in ordinary potter's clay and made perfectly secure and level, accurately measured sections could very easily be cut. With a compass the body might be marked all round for the purpose of greater accuracy.

Dr. TALBOTT said that this was certainly a most beautiful illustration. In this work of Dr. Potter's the study of anatomy had been made vastly more accurate, it had been made vastly more interesting, it had been made much more thorough and much easier for the student. Like Dr. Kane the speaker wished that especially the process of hardening and preserving the body had been known when he was working in the laboratory. When as a student he went to the dissecting room each evening he shrank from getting his hands into the awful mess; it was so repulsive and yet so interesting when once begun. He fancied he could see Dr. Potter's students entering the dissecting room with eagerness, more earnestness and with the determination to know something of anatomy. With the speaker's class it had been a question of how quickly they could get through with it and get away. Now it is how much they can learn, not how quickly they can get away. He mentioned as an illustration an experience of his student days. In the dissecting room were an Assyrian and a German. The Assyrian had had a year of anatomy, the German had had none, and

they were working together. The Assyrian had removed the skin of the arm and was very rapidly removing the muscles, very quickly cutting away the biceps and triceps, and was getting around on all sides when the German called a halt. He wanted to know how soon they would get down to the "nervous part." The Assyrian had already removed the skin and muscles down to the bone. He replied to the German's question that he would tell him about that part to-morrow. He said he had heard most excellent reports of Dr. Potter's dissecting room. He felt that the great help, the greatest help, of Dr. Potter's work and that of others of to-day had been in the method of preservation. The method of conducting the work is far superior to what it was. The charts were certainly very fine but the greatest thing about it all was the method of preservation.

Dr. BRODERICK said that he had been present at a recent meeting of a medical society when Dr. Potter presented an entire body, similarly prepared, with the organs *in situ* for demonstration and he fully appreciated the practical worth of the Doctor's work. He felt that the specimen brought before the St. Louis Medical Society was of special value to the surgeon, and suggested a reproduction in papier mache. It would be lighter in weight, not so hard to handle and the surgeon could keep it in his office and use it for reference before undertaking some operation. It would be much handier to keep such a paper body and not so grewsome to people who happen into the office.

The PRESIDENT said that he noticed that the remarks had hinged mainly upon the production of absolutely perfect sections. It seemed to him that marking the body as Dr. Potter had done was the simplest method of obtaining the sections. The absolutely correct marking would depend upon getting one level as a standard. All the rest could be had from that. Some of the instruments used by surveyors might be of service in getting a point on the anterior and a corresponding point on the posterior surface; for example, the spine of the dorsal vertebra could be marked off by a surveyor's telescope, then a corresponding point on the anterior surface could be made, and a circle drawn around the body.

Dr. POTTER, in closing, said that as Dr. Sharpe had remarked it was not necessary in the case of student work that the sections be absolutely accurate. The relations show just as well.

Several of the suggestions as to imbedding mass he thought would be very valuable, particularly the sawdust and glue. He had thought of putty and had also thought of some oil to dilute the paraffin. One objection to the paraffin was that when it got cold it would break off. If it could be diluted it might be possible to use it.

As to the method of hardening the body, about 1895, Garrod, a German, used a 2 per cent formaldehyd solution injected in the arteries, sectioned the body at once and put it into strong alcohol to harden. Dr. Jackson, about 1900 or a little earlier, conceived the idea of injecting a 50 per cent solution. He saw that the lower animals injected with this solution became rigid and that there was little danger of drying and no decay. That year he presented it to the medical world. The credit for all such work should be given to Dr. Jackson, not that he was the first man to make sections, for even 300 years back there is a record of sections being made, but they were of little value for class work.

In regard to the papier mache manikin, it would not be grewsome but that would be its only value.

Such sections are of value because not only the surface can be seen but all the parts. If the surface alone is seen it gives certain relations, but the great value of the work would be lost.

Treatment of Variola by Antistreptococcic Serum.

Smith (*Med. Record*, April 2, 1904) advocates the administration of antistreptococcic serum in the treatment of smallpox. In six cases he obtained highly satisfactory results by the injection hypodermatically of this serum in doses of 20 cc., in connection with bichlorid sponge baths and small doses of calomel.

It was found that the course of the eruption was not affected up to the stage of pustulation but this latter was prevented in every instance as was also the secondary fever arising from this condition. Convalescence seemed to be hastened and his cases were dismissed from quarantine in from fifteen to seventeen days. Pitting of the skin and the usual debility following an attack of variola were prevented also, according to Smith's report.

REPORTS ON PROGRESS.

MEDICINE.

In Charge of EDMUND A. BABLER, M.D.

The Hygiene and Dietetic Treatment of Chronic Nephritis.

Vaughan (*Northwest Med.*, September, 1903) objects to the present anatomical classification of chronic Bright's disease, viz :

1. Parenchymatous nephritis.
2. Glomerulonephritis.
3. Interstitial nephritis, and,
4. Arterio-sclerosis, since in no instance are the pathological changes confined exclusively to one histologic element.

The question is asked: Does albumin appear in the urine because the kidneys are diseased, or are the pathological changes in the kidney due to the acquisition of poisonous properties by the molecule circulating in the blood? and the writer supports the latter theory with the following facts: When blood serum of one animal is injected into an individual of another species, marked degenerative changes in the kidneys are produced, and may lead to the symptoms of uremia; this action is destroyed by moderate heat and the toxin is largely removed by dialysis; racin and abrin, poisonous vegetable proteids are powerful toxins to the renal cells, as are bacterial toxic products; Hughes and Carter's experiments (*Am. Jour. Med. Scien.*, 1894) lead them to conclude that the toxin in the blood serum of Bright's disease is an albuminous body. The blood serum of the horse has no toxic effect upon the renal cells of animals of other species.

The author recommends a diet that is, with the exception of butter and cream, wholly vegetable. The object aimed at, is to profoundly alter the proteids in the circulating blood. Collect the urine for twenty-four hours; find quantity of albumin and express the result both absolutely and in percentage; find amount of urea and of total nitrogen. Examine urine every few days and compare results. Cream to the amount of 500 grams per day is permitted; corn meal mush is preferred to other cereals and is allowed *ad libitum*, though

oat meal or cracked wheat may be substituted; sugar *ad libitum*, for mush; zweiback and butter and potatoes complete the substantial of the rations, although legumins, peas, beans, green vegetables, fruits and melons are permitted. *Milk is not permitted.*

That such a diet furnishes the necessary calorics, is shown by the following table:

	Proteids.	Carbohydrates.	Fat.
500 grams of cream, - - -	5	27.60	150
200 grams of corn meal, - - -	20	130.60	8
100 grams of zweiback, - - -	14	60.00	24
50 grams of butter, - - -	—	—	40
20 grams of sugar, - - -	—	20.00	—
	39	238.20	222

Since the caloric value of each gram of proteid and carbohydrate is 4.5 and of each gram of fat is 9 it will be readily seen that more than 3000 calorics are furnished by this ration. Hard-working men thrive on such a diet and the amount of albumin in the urine gradually diminishes.

Of course, the digestive and excretory organs of these patients must be kept in good order and hot baths (temperature above 90°) two or three times a week, and a Turkish bath once a week must be recommend.

Medicinal agents must not be forgotten. In syphilitic diseases of the kidney the value of mercury, and the benefit of quinin in malarial nephritis can not be questioned. Extensive edemas of the lower extremities have been seen by the author to wholly disappear and the patient able to return to work and continue at it for years after the administration of a hydrogogue cathartic, such as elaterium followed by heart tonics. Digitalis stands first in the list of heart tonics. In passive hyperemia of the kidney due to disease of the heart, and which is often accompanied by albuminuria and more or less extensive edema, the value of digitalis can not be denied.

Tetanus.

Moriarta (*Albany Med. Annals*, November, 1903) believes that we should modify our extreme surgical views relative to the importance of removing all the injured tissue, if we accept the conclusion of Von Oettingen and Zumpe, whose experiments convinced them that the tetanus bacilli found by them in different organs must have been disseminated by the blood current. The incubation of the author's case

was eighteen days and the symptoms were slight at onset but grew steadily worse; 50 cc. of antitoxin obtained from the State Laboratory was given hypodermically every eight hours, making a total administration of 800 cc. Chloral was also given. Injured parts were excised and the wounded skin grafted and dressed with gauze wet with normal salt solution. During the first four days of injections the symptoms became worse but on the fifth day improvement was noted. No rash or sepsis followed the injections, nor was the temperature or pulse affected immediately following an injection. Patient recovered. The author finds it impossible to make any deductions as to the value of the antitoxin in this case owing to the late onset.

Bradley (*Northwestern Lancet*, November 11, 1903) cites a case in which the symptoms were noted after the patient received a very severe jarring of body. One day after injury a persistent priapism which lasted six weeks was complained of. Loss of sexual desire and power of erection followed. Blood showed the usual large proportion of myelocytes and the polymorphism of the cells. Skin not much tinged; liver and spleen enlarged. Usual treatment. Arsenic seemed to reduce size of spleen. During past three weeks x-ray applications, on the strength Dr Senn's reported experience, have been given daily.

Should a Tubercular Lung be "Exercised?"

Bridge (*Medicine*, November, 1903) regards all machines, devised to expand the air vesicles and the lungs as a whole, as an artificial means for producing pulmonary emphysema. Coughing wears out the strength of the patient, but causes more stretching of the lungs. Facts considered of great significance are the following:

1. Serous effusion into the pleural cavity of a tuberculous lung—the other lung being clear, is usually if not always followed by improvement and the lesion recovers more rapidly than is usual with a normal pleura.

2. Immobilization by inflation of pleural cavity of affected lung with steril air or harmless gas—or the Murphy inflation treatment in eligible cases, gives rest to the lung, cough and pain are reduced, fever grows less and comfort is secured.

3. Partial immobilization by means of external agencies, such as, adhesives straps, etc., produces the same improvement as the inflation treatment but to a less degree.

4. Patients with active tuberculosis, who have been coughing a great deal and taking the deep breathing exercises, usually rather promptly discover an improvement in strength; the decrease of the fever and in the sense of comfort, after they have adopted the plan of lessening the cough and keeping the lungs as still as possible by will power measures.

The writer believes these results to demonstrate that quiescence of the diseased lungs is desirable for the sake of healing and that mucopus in the bronchi does little harm. The products that are beneath the surface of the cavities and channels in the lungs seem to do the mischief.

Dry air is beneficial because it produces a lessened amount of the watery elements of expectoration and gives greater rest to the lung and a freedom from coughing.

Anodynes do harm, not because they reduce the cough but because they cause digestive disturbances.

High altitudes benefit some cases by the increase in red corpuscles on going from a low to a high elevation.

Plenty of pure, fresh air must be breathed at all times but the author contends that all devices calculated to stretch the air vesicles ought, in all cases of active pulmonary tuberculosis, to be abandoned, since they are irrational and harmful.

Where the inflation method is contraindicated devices ought to be used so as to very considerably abbreviate the motions of the diseased lung.

Filaria Perstans.

Bastian (*London Lancet*, March 5, 1904) gives the anatomical characters of the so-called filaria perstans and the mode of infection. This researches cause him to make following notations:

1. That we know next to nothing concerning the internal anatomy of filaria perstans and are, therefore, quite unable to say to what genus it belongs.

2. That it is practically an error to say that nematoids pass through one or more metamorphoses, since they invariably (so far as it is known) attain maturity by a process of steady and progressive development.

3. That nematoids stand in no need of being harbored by intermediate hosts, but are from the time of their emergence from the

egg or the parent perfectly capable of maintaining an independent existence.

4. That, as a consequence, plants or vegetables in use as well as water may be the real sources through which nematoids obtain an entry into the human body, where they may be capable of developing as facultative parasites without having to pass through the body of an intermediate host.

Neuroses of the Stomach and Intestines.

Norbury (*Medicine*, November, 1903) considers predisposition as a primary and important factor, and concurs with Riegel that "many diseases we consider neuroses to-day, will in time be found to be based on pathologic-anatomic changes."

Nervous dyspepsia is regarded as a nervous storm of the whole functional activity of the stomach, and that the motor, secretory and sensory functions may be involved. The writer's experience causes him to regard it as a disease of depression due to the nervous system.

The rest treatment instituted away from home is the most important factor in the treatment of neuroses, since it conserves energy, insures quiet and absence from worry. All etiological factors must be carefully studied and treatment regulated accordingly.

Pneumothorax.

Trask (*Jour. Am. Med. Ass'n.*, March 5, 1904) believes that this affection in phthisis is a more frequent accident at Fort Stanton, N. M., than elsewhere, and that the prognosis is less hopeful. The exact reason is not known. More than 20 per cent of the forty-one deaths occurring there between September 1, 1902, and May 1, 1903, revealed the pretence of pneumothorax at autopsy. Five of the attacks occurred during the night when the patient was in bed, two occurred while leisurely walking, and one while sitting on a shaded porch.

The extent and location of the partial pneumothoraces depended entirely on the adhesions and not on the site of perforation. Perforations were not found through old adhesion, nor through the walls of large cavities, but occurred where the adhesions were young and friable or more commonly absent.

The characteristic symptoms was—sudden, intense, sharp pain in

the affected side, accompanied by urgent dyspnea, general distress, cyanosis, and a rapid, weak pulse. The symptoms were of the same severity whether the pneumothorax was partial or total.

Purinemia.

Wilcox (*Am. Med.*, February 6, 1904) concludes that:

1. The endogenous uric acid is the one chiefly concerned in gout and purinemia.
2. The uric, as well as phosphoric acid excretion, is merely an index of the amount of retrograde metamorphosis of the body nucleins.
3. Since the endogenous uric acid is independent of the presence of animal food in the diet, patients should be limited only in quantity in order to reduce the intake to the needs of the organism.
4. The rôle played by the liver in gout is purely a negative one, *i.e.*, its inability to act as a poison filter.

The treatment consists in the limitation of all toxic influences and formation of toxins, particularly in the alimentary cannal, in order to minimize the retrograde metamorphosis of the body nucleins, thus preventing absorption of toxic material and promoting its elimination.

Acute Septic Colitis.

Vincent (*British Med. Jour.*, February 6, 1904) reports a case of his affection due to contaminated milk supply. The patient complained of cervical adenitis and jaundice followed with pains in the abdomen; these latter were of a paroxysmal and shifting character. It was necessary to administer morphin sulphate, gr. $\frac{1}{4}$, hypodermically to give the patient any relief. In fact pain was the only thing complained of, and that was misleading owing to its shifting nature, leading the writer at one time to suspect renal colic, which was soon dispelled for biliary colic, and the history of repeated attacks of jaundice seemed to confirm this latter diagnosis.

Bowels were slightly constipated and gave no clew to the condition until a few days before death. The symptoms of toxemic absorption—absence of high fever, presence of increasing rapidity of the pulse, enlargement of the liver and spleen—were present.

The post-mortem findings showed septic process especially in the cecum and duodenum, the appendix was normal.

SURGERY.

In Charge of M. G. GORIN, M.D.

Congenital Narrowness of the Pyloric Orifice a Cause of Gastric Disease in the Adult.

Maylard (*Brit. Med. Jour.*) claims that there is a considerable number of cases of chronic gastric disease due to congenital narrowness of the pyloric orifice, which may be reduced anywhere from the normal to two millimeters in diameter. The remedy suggested is gastro-jejunostomy.

Spontaneous Gangrene of the Hollow Viscera.

Roswell Park (*Annals of Surgery*) reports two cases of spontaneous gangrene of the hollow viscera. The first was that of a mail carrier who had worked until the afternoon of the day preceding his admission to the hospital, and was in excellent health apparently until the moment of seizure. When brought to the hospital he was in collapse almost, with rigid distended abdomen, coffee ground vomit, fecal in character, and free from pain which had been agonizing a short time previous. Abdominal section was performed, revealing a gangrenous condition of the entire small intestine from stomach to cecum, almost ready to slough in places. The large intestine was similarly involved, only to a lesser extent. The odor and appearance of the abdomen was cadaveric, and the parietal layer of the peritoneum seemed to be involved equally with the visceral. The patient died three hours later.

The second case was that of a young married woman, 33 years of age, who was quite suddenly seized with acute pain in the upper abdomen accompanied by vomiting. The pain was relieved only by morphin but the vomiting continued. The following day examination showed a distended exquisitely tender abdomen, with rigidity of abdominal muscles. Vomiting distinctly fecal. On opening the abdomen the outer tissues were found to be edematous and the subperitoneal fat necrotic. Every loop of intestine was distinctly gangrenous, and almost ready to tear, and the same condition obtained in the large intestine. Patient survived operation fifty-six hours. Autopsy was denied in both cases.

Though autopsy was not performed the author, from the history

and symptoms presented, judged both the preceding cases to be due to mesenteric occlusion. This subject was first studied by Virchow in 1859, and Kussmaul and Gerhardt in 1853. With regard to the anatomy of these vessels it must be remembered that the mesenteric veins are valveless and the arteries like those of the brain are terminal so that collateral circulation is not prompt or complete, and that after tying the superior mesenteric artery the blood supply of the intestine at once is cut off. The influence of hemorrhagic diathesis and the association of hemorrhages elsewhere in the body has been observed in a few cases.

Gallavardin states that the most frequent cause is mitral stenosis and the second arterial sclerosis. Falk collected seventeen cases of embolism of the intestinal arteries. Thrombosis is nearly always an extension of a lesion beginning in the veins of the pelvis, kidney or intestine. It is rarely found in typhoid fever. An arterial lesion may appear as an infarct, gangrene or abscess. The experiments of Cohnheim, Grawitz, Litten and Kalisch show how readily necrosis of the intestine occurs when the blood supply is cut off. Anemia is followed by venous stasis and loss of contractility of the gut, with consequent dilatation. Sometimes annular gangrene of a portion of the gut occurs as a result of the occlusion of a branch of the mesenteric vessels. The more complete the occlusion the more overwhelming the resulting symptoms. The signs and symptoms of this condition are as follows:

1. Sudden onset.
2. Severity of the pain.
3. Diarrhea in 30 to 40 per cent of the cases, profuse and bloody after a few hours.
4. Obstructive symptoms.
5. Vomiting bloody or fecal.
6. Rapid pulse.
7. Subnormal temperature.
8. Meteorism.
9. Abdominal rigidity.
- 10 Presence of fluid in the abdominal cavity (later).

When mesenteric thrombosis or embolism is suspected similar lesions should be searched for elsewhere in the body. The condition is to be differentially diagnosticated from perforating ulcer of the

stomach, acute obstruction, pancreatitis, acute splenic infarct, acute appendicitis, acute cholecystitis, ruptured extrauterine pregnancy, and intrathoracic lesions. In conclusion the author states that abdominal section should be promptly performed upon every case presenting the triad of symptoms—abdominal pain, collapse and rigidity of abdominal walls.

Bursæ of the Neck, Study of Normal and Pathological Conditions.

Anderson (*Jour. Med. Science*) divides the different methods of treatment into the following classes:

1. General and local absorbents.
2. Simple incision and drainage.
3. Drainage and use of a local irritant to produce adhesive inflammation.
4. Partial excision of cyst wall.
5. Complete extirpation.

Regarding the first method the author concludes that nothing is to be gained by the use of iodids, mercurials and diuretics internally, and that chronic fistula has often resulted from too active local treatment causing inflammation and vesication. Simple incision and drainage is ineffectual as recurrence or chronic fistula most frequently results. Drainage of the sac and the injection of local irritants sometimes effects a cure, but it apparently as often fails, and is not infrequently followed by chronic suppurating fistula. The anatomical configuration of the bursæ with its projection behind the hyoid bone, and infundibuliform prolongation renders it extremely difficult to reach every part of the cyst wall. Panus treated a case by injecting a solution of zinc chlorid without first emptying the sac. Solutions of iodine, carbolic acid and alcohol have been used with varying success. Partial excision of the cyst is entirely unsatisfactory.

The best method of treatment is complete extirpation of the cyst, which is, however, a rather difficult dissection. Weir adopted the expedient of injecting the sac with paraffin and allowing it to harden which permitted the cyst to be shelled out entire.

Obstruction of the Common Bile Duct.

In dealing with a case with symptoms referable to the liver the first impulse is to attribute these to some inflammatory affection of the

liver, gall-bladder or ducts, or to tumor of these structures. In an article under the above heading, Hammond (*Pa. Med. Jour.*) calls attention to some conditions arising without that cause obstruction to the flow of bile through the common duct. It is difficult to make a diagnosis of such conditions prior to incision.

The anatomical relations of the common duct must be borne in mind, especially its relations to the gastrohepatic omentum, supplied with its rich network of lymphatics, also the intimate relation with the head of the pancreas and the pancreatic duct, where just before entering the duodenum a simple glandular enlargement may suffice to close the lumen of the duct. A second point of importance is the arrangement of the lymphatic glands at this point where they are larger and more numerous (in the vicinity of the duodenum and head of the pancreas) than anywhere else in the abdominal cavity. Illustrative of the surgical importance of these glands is the following case:

A woman aged 82 years, contracted pneumonia of the right lung followed by empyema, which was relieved by incision and drainage. Four weeks after pneumonia had developed the right lobe of the liver was found to be greatly enlarged and the gall-bladder distended well down to the iliac crest and as far forward as the median line. There were nausea and vomiting but no pain. Jaundice became intense. Within two weeks the empyema was cleared up, but liver symptoms grew worse. The picture was clearly an obstructed common duct, but the cause unknown. Abdominal section was performed and the immensely distended gall-bladder emptied through incision, when it was found that the cause of obstruction was a greatly enlarged chain of lymphatics enveloping the common duct and the duct of Wirsung. Drainage was continued for three weeks, and in six weeks the patient was entirely well. It was decided that the glandular enlargement in this case was due to the lymphatic infection from the right pleura.

The writer observed a second case similar to the one just related where the enlargement of the obstructing glands was due to malignant disease of the stomach.

A third case in which the patient had been reduced to a pitiable condition through obstruction of the common duct, was found to be due to adhesions of the pancreas and the ducts to the parietal peritoneum posteriorly, the descending duodenum being also firmly an-

chored. In this case no cause for these adhesions could be found in the previous history of the patient, who had been free from any complaint save a malarial history two years previous. In this case a remarkable amount of fluid was discharged through the drainage tube, from a quart and one-half to two quarts every twenty-four hours for four days. These cases go to show that simple lymphatic infection brought to the lesser peritoneal cavity from organs remote from it may cause obstruction of the common duct, in which case cholecystotomy and continued drainage bring about recovery.

X-RAY AND ELECTROTHERAPEUTICS.

In Charge of H. N. CHAPMAN, M.D.

Radium.

The subject of radium is claiming much attention from the medical and lay press. All sorts of wild and mysterious claims are being made for it. It is with this as always with the unknown, far more power and dignity is ascribed to it than should be. All the claims in the lay press of marvellous cures wrought by it may be set down as false and without foundation—such as the blind being made to see. In regard to this reports have come to us from Europe of cases of blindness occurring at the age of one year, (patients at the time of the experiments being 10 or 12 years of age,) were made to be able to discern objects dimly by placing a tube containing a few milligrams of radium chlorid against the temple, the report says in certain cases the effect was sufficiently powerful to enable them to read, but was only present while the radium was in position; and, of course, the destructive effect of the rays would preclude the continual, or even frequent use of the radium. Two English authors ascribe this effect "to a fluorescence of the tissues of the eyeball, notably of the retina and lens excited by the b- and x-ray."

The only really valuable suggestion which has come to our attention is one made by Dr. Bell, the inventor of the telephone; it is that in large growths an opening he made and a few milligrams of radium in a hermetically sealed tube he inserted and allowed to stay for such a length of time as may be necessary, and so attach the trouble at its center. We have seen no report of this having been done so far. Dr. Margaret A. Cleaves, of New York, reports having used radium in several cases—in

one of cancer of uterus and rectum and the other sarcoma of cheek, which were treated with radium of 7000 radioactivity with marked relief as to pain and oozing of blood. The treatment could not be continued for a great length of time because the owner of the radium desired it, it having been borrowed for this purpose. Dr. Cleaves says: "This report is made, because, taken in connection with the experience of other, it seems to foreshadow an important place in medicine for radium. The profound physiological action obtained would seem to indicate that powerful activities and long exposures are not necessary. The fact that radium emits rays of a greater penetrating power, and of a higher vibration than the cathode rays, *i.e.*, the x-rays, taken in connection with the change in appearance and relief obtained in the writer's case of sarcoma, and the cure of the cases reported, stimulates the hope that in radium a therapeutic measure of value over and above the x-rays is at command. In the case of sarcoma the best resources of excited x-ray tubes have been faithfully tried, even to the production of an x-ray dermatitis, but up to the time of the use of the radium he was rapidly losing ground. Unless radium should prove for him an Aladin's lamp of more than fabled power, he is doomed."—*Adv Therap.*, November, 1903.

X-Ray in Aneurism.

G. Miner Cooper (*Ibid.*) reports a case of aneurism in alcoholic, with syphilic history, who came to the hospital with pain and a sense of throbbing. Potassium iodid in large doses failed to give relief, but three x-ray exposures on alternate days of five minutes each entirely relieved the pain.

Bad Effects of the X-Ray.

Dr. P. G. Unna, of Hamburg, (*Archives of the Roentgen Ray*, December, 1903.) intends issuing a publication concerning the successful treatment of Roentgen-ray dermatitis of physicians and x ray workers. For this purpose he requires as much material as possible bearing directly on the subject. In consequence physicians and x-ray workers in general who have personally suffered from the bad effects of the x-ray on their hands are kindly requested to send at their earliest convenience a concise account of their cases, in which the following points are particularly required :

1. Deviation and origin of the pathologic change.

2. An exact description of the same as it appeared in the initial stage and in later stages.
3. The medicaments and methods of treatment which were tried either with or without success.
4. Any remarks which may lead to a better knowledge of the cause, course and treatment.
5. If possible, a photograph of the affected skin.

These particulars should be sent to Drs. Albers Schoberg, Klopstockstresse 10, Hamburg.

Radium From Pitchblende.

The process for extracting radium from pitchblende is described as follows in the *Lancet*: Operations for the extraction are commenced by crushing the pitchblende, and then roasting the powder with carbonate of soda. After washing, the residue is treated with dilute sulphuric acid; then the sulphates are converted into carbonates by boiling with strong carbonates of soda. The residue contain radium sulphate which is an exceedingly insoluble salt. The soluble sulphates are washed out and the residue or insoluble portion is easily acted upon by hydrochloric acid, which takes out among other things, polonium and actinium. Radium sulphates remains unattacked, associated with same barium sulphate. The sulphates are then converted into carbonates by treatment with a strong boiling solution of carbonates of soda. The carbonates of barium and radium are next dissolved in hydrochloric acid, and precipitated again as sulphates by means of sulphuric acid. The sulphates are further purified and intimately converted into chlorids until about 15 pounds of barium and radium chlorid are obtained by acting upon one ton of pitchblende. Only a small fraction of this mixed chlorid is pure radium chlorid, which is finally separated from barium chlorid by crystalization, the crystals from the most radioactive of the solutions being selected. In this way the crystals ultimately obtained are pure radium chlorid of a very high degree of radioactivity.—*Med. Elect. and Radiology*, October, 1903.

The radioactivity of radium which is represented by certain figures, as for instance, 7000, 300, etc. The unit for this is uranium and when we speak of a certain specimen of radium being of 7000 radioactivity it means that such a specimen is 7000 times more radioactive

than a specimen of uranium. It is reported that a specimen of radium of 1,500,000 radioactivity has been isolated.

High Frequency Currents in Constipation.

Diefenbach (*N. A. Jour. Hom.*) recommends high frequency currents locally to the rectum for constipation, and gives a number of cases where cure permanently resulted. His method was to use vacuum glass electrodes connected to a Piffard hyperstatic transformer and static machine, and in cases where portal circulation is at fault, Morton wave current over the hepatic area. In case of females, he warns the operator not to apply treatment too close to menstrual epoch as it will bring on premature flow.

Artificial Fluorescence of Living Tissues.

W. J. Morton (*N. Y. Med. Record*, August 8, 1903) says, in connection with the subject of artificial fluorescence of living tissues: My plan is to saturate the patient's system with quinin or other solutions capable of fluorescence under the influence of the x-ray, and then to submit the patient to x ray treatment. During a year or more I have pursued this plan in nearly all my cases of cancer, and I have the strongest reasons to believe that this method has conduced very greatly to success. In five cases of Hodgkin's disease (four of which I have treated myself, while a fifth was treated by a physician after consultation with me, in which I advised the use of quinin together with the x ray, in order to obtain this artificial fluorescence within the body) the fifth case—namely, the one in which the quinin was used, has made most remarkable progress; every large gland has entirely disappeared, and the patient is almost well. I administer from 5 to 20 grains of quinin one hour before treatment, according to the tolerance of the patient for the drug.

PEDIATRICS.

In Charge of M. J. LIPPE, M.D.

Cirrhosis of the Liver as Seen in Children.

Hollopeter (*Jour. Medico-Chir. College*, November 20, 1903) opines that cirrhosis has for its analogy arteriosclerosis in early life and with this latter affection might be regarded as a rare condition. Liver diseases are, however, usually the results of secondary troubles, and as such, they require the element of time to produce them.

The relative larger size of the liver in the young, is frequently regarded as pathological, when it is really normal.

Interstitial hepatitis in infants is most probably syphilitic, of course, inherited.

Alcoholism is a prominent factor in the production of cirrhosis. The use of aromatic wines, cordials, gin, etc., by shiftless parents to offset care and attention, is a factor in the production of cirrhotic livers in young children, that has never been sufficiently recognized. Most cases of hepatic fibroses in children are hypertrophic except the alcoholic in the last stages. The earlier symptoms of either variety, atrophic or hypertrophic are the same. Digestive disturbances, restlessness at night, for many months, perhaps, flatulence, occasional vomiting, constipation alternating with diarrhea, will be noticed; sallow skin, harsh and dry, elevated hair-follicles, with dark circles under the eyes and loss of flesh, especially noticeable about the arms and legs, appear later. The abdomen enlarges and on palpation fluid will oft-times be discovered.

The first pronounced characteristic symptoms are, therefore, ascites, with watery, waxy limbs, at times edema of the feet. Fine dilated veins, on cheeks or nose will oft-times be a fingerboard to our diagnosis. Larger veins on the abdomen, forming four or five large branches running down from the xiphoid cartilage to the groin are seen. These veins communicate above with the epigastric and internal mammary, and below with the iliac and saphenous veins.

The enlarged liver may be palpated, unless dropsy is extreme, and the enlarged spleen is better felt with the child on all fours. The spleen is usually enlarged. The nose bleeds easily and occasionally hemorrhoids form or slight bleeding from the bowels is an associated symptoms.

General Gonococcal Peritonitis in Young Girls Under Puberty.

Northrop (*Archives of Pediatrics*, December, 1903) records two cases in whom the following symptoms were marked: Acute onset, pain and vomiting; the vomiting is at first of food, later bilious. In addition to pain and tenderness, prostration and pallor were most pronounced; the features were pinched, expression anxious, alidity marked, respiration rapid; micturition and defecation painful.

The temperature in one case was 104° , in the other 102° . The vulvovaginal discharge showed gonococci.

In one case there was rigidity over the appendix. Operation revealed an arborescent injection of the peritoneum and a few drams of fluid in the pelvic fossa, but no other obvious inflammatory change. No cultures were made from the fluid found in the peritoneum. The other case was not operated on. Both recovered.

The source of infection was a female in the household with whom each of these children occasionally shared a bed.

Vaccination and Infant Mortality.

Mackenzie (*Brit. Med. Jour.*) refers in this article to the popular impression that vaccination introduces into the infants many diseases which impair vitality, and also that it is contributory to infant mortality, and states that he was led to investigate the subject because a specialist in children's diseases had mentioned in an article sent to him vaccination as a cause of infant mortality. He traced 987 children who were born in the years 1900, 1901, and 1902, in the district where he was medical officer during this time, and resided there. Of these 987, 706 were vaccinated and 281 not vaccinated.

The mortality of those children who had been vaccinated during the first year of life was 8.49 per cent and of the unvaccinated 16.01 per cent.

He also found that among the children who were vaccinated death occurred at such an interval following that the vaccination would not be regarded in any way responsible.

The popular impression, even among the medical profession, that vaccination acting concurrently with another disease imparts a shock to the infant and accelerates its death is shown to be erroneous, with possibly the exceptions of zymotic enteritis and tuberculosis. Measles, scarlatina, pertussis, influenza, and syphilis all seemed to be favorably affected by the vaccination.

The author believes that latent eczema and impetigo may be excited by vaccination, and cites cases which seem to prove his statement.

In his opinion true insusceptibility to vaccination is extremely rare, though there may be a temporary insusceptibility due to ill health, particularly anemia, and that when this is removed the susceptibility returns.

BIOGRAPHICAL SKETCHES.

DR. JOHN HENRY WATTERS.

Dr. John Henry Watters was born in 1827, in the City of Baltimore. Of his life we know but little. In 1849, he commenced the study of medicine at the University of Pennsylvania, graduating two years later. His graduating thesis was "Organic or Life Force," which was evidence of much thought and proved that he had a clear understanding of the problem that confronted the medical profession of his day. He came to St. Louis in 1842 or 3, and a year or two later was made Professor of Physiology and Medical Jurisprudence in the St. Louis Medical College, which chair he held until 1862, resigning at that time to act as Surgeon in the Confederate Army which office he filled until the close of the war; he then returned to St. Louis and in 1867 accepted the chair of Physiology, Pathology and Clinical Medicine at the Missouri Medical College.

In October of 1867 he delivered a lecture before the class of the Missouri Medical College on the "Correlation and Conservation of Forces," which was published in the *St. Louis Medical and Surgical Journal*, and in the *Lancet*, of London. In this lecture he attacked the noted London physician, Dr. Carpenter, indirectly accusing him of plagiarizing some of his ideas on "Force" which he had previously sent to Dr. Carpenter. The controversy as to who was entitled to priority continued for some time through the medical journals and was finally settled by Dr. Hinton a friend of Dr. Carpenter, giving Dr. Watters credit for his views.

Dr. Watters was made President of the St. Louis Medical Society in 1869. In the latter part of the same year he resigned from the Professorship of the Missouri Medical College on account of failing health, his constitution having been impaired during the war and he never fully recovered.

Dr. Watters was considered by all who knew him, as an elegant gentleman and an able instructor. His death oc-

curred in St. Louis in September, 1872, at the age of 45 years.

DR. MOSES M. PALLEN.

Dr. Moses M. Pallen was born in King and Queen County, Virginia, in 1810, and died in St. Louis, September 24, 1876, at the age of 66 years. His academic studies were pursued at the University of Virginia, but he graduated in medicine from the University of Maryland, in Baltimore. Soon after taking his degree he went South and for seven years practiced his profession in Vicksburg, Miss. In 1842, he removed to this city where, for many years, he was a prominent figure as a practitioner and teacher of medicine. During the Mexican war he held the position of contract surgeon at the old Arsenal.

In the cholera epidemic of 1849, during Mayor Pratte's administration, he performed the arduous duties of Health Officer. For over 20 years, and until failing health necessitated his resignation, he occupied most acceptably the Chair of Obstetrics in the St. Louis Medical College. He was one of the founders and early Presidents of the Academy of Science, and was also President for several years of the St. Louis Medical Society.

Dr. Pallen was a polished and courteous gentleman, and in his lectures, his conversation, and his occasional contributions to medical literature, gave abundant evidence of the thoroughness of his early training both in letters and science. His reading had been most extensive in all directions, and so in the evening of his days he had ample resources of pleasure and consolation in the garnerings of an active and cultivated intellect.

Dr. Pallen married Miss Janet Cochran, daughter of a prominent merchant of Baltimore. He was survived by his wife, and four sons and two daughters. One of his sons was the late Dr. Montrose A. Pallen, of New York.

Announcement.

Of this issue we mail 5,000 extra copies with a view of increasing our subscription, see subscription blank, advertising page 3.

BOOK REVIEWS.

The Courier of Medicine Company will mail, postpaid, any book reviewed, on receipt of price.

King's Obstetrics.

A Manual of Obstetrics. By A. F. A. King, M.D., professor of obstetrics and diseases of women in the Medical Department of the Columbian University, Washington, D.C., and in the University of Vermont, etc. Ninth and revised edition, 12mo. 629 pp., with 275 illustrations, cloth, \$2.50, net. Lea Brothers & Company, Philadelphia and New York. 1904.

It seems a work of supererogation to review a book which is in its ninth edition. With the addition of recent advances in the science and art of obstetrics this revision deserves the success which the book has fully received in the past.

The Perpetual Visiting and Pocket Reference Book. Including Information in Emergencies from Standard Authors, also the following comprehensive contents: Table of Signs and how to keep Visiting Accounts, Obstetrical Memoranda, Clinical Emergencies, Poisons and Antidotes. Dose Table, Blank leaves for Weekly Visiting List, Memorandum, Nurses Addresses, Clinical Record, Obstetrical Record, Birth Record, Death Record, Vaccination Record, Bills Rendered, Cash Received, Articles Loaned, Money Loaned, Miscellaneous, Calendars for 1904 and 1905. Bound in Morocco, Red edges. Pages 124. Price, 25 cents. The Dios Chemical Company, 2940 Locust street, St. Louis, Mo. 1904.

This is one of the neatest and most complete Visiting Lists offered to the profession. The Dios Chemical Company propose to furnish a limited number of this unexcelled Visiting List to the profession for 25 cents. The doctor will readily recognize that the Dios Company is saving no expense in keeping its name prominently before the profession, for whom it manufactures products, of more than ordinary merit, exclusively for the physician to prescribe. Those of our readers who desire a complete Visiting List, have only to remit 25 cents (for postage and wrappiog) to the Dios Chemical Company, St. Louis, Mo., and they will receive it.

FOREST PARK

WORLD'S FAIR NOTES.

A Comparison of the Artistic Values of World's Fairs.

BY TRUMAN A. DE WEESE.

When President Roosevelt, on April 30th, touched the electric button which threw open the gates of the Louisiana Purchase Exposition, at St. Louis, he signalized the formal presentation to the public of the largest, most artistic and most imposing exhibit of the products of human industry and skill ever brought together in this or any other land. In its architectural and sculptural wealth, in the beauty of its landscape and fountain effects, and in the educational scope and plan of its exhibits it stands unequaled among the great expositions of history. As a representation of the twentieth century progress, resources and artistic attainment of the people of all nations it is impressive and imposing beyond description.

The color scheme is ivory white, relieved by occasional dashes of red and blue and gold in roofs and minarets. The architecture, which is described as a "free treatment of the Renaissance," is a pleasing combination of nearly all the architectural devices that ever gladdened human eyes, from the pediment and peristyle of the Parthenon to the minaret and dome of the Taj Mahal. It is a grand ensemble of majestic Corinthian and Ionic colonnades, domed roofs, Spanish steeples, classic pediments, sculpture-decked facades, attics and triumphal arches. Not satisfied with this lavish reproduction of the forms and ornaments of classic architecture, the entrances of the Mines and Metallurgy Palace are crowned with Egyptian obelisks, and in the United States Fish Pavilion we have a Roman dwelling house of the Pompeiian type. On the high hill overlooking this beautiful picture is the million dollar Art Palace, built entirely of stone, and farther on the very crest of the hill are the dozen permanent red-granite buildings in the Tudor Gothic style of architecture.

The World's Fair at St. Louis combines the massive dignity and impressive nobility of the white structures at the Columbian Exposition with the artistic beauty and sculptural

wealth of the Pan-American, and it surpasses them both in all these features. It has grander and more imposing buildings. Its fountains, cascades and electrical effects are more impressive by day and more dazzling at night. Educationally it represents the supremest triumph of an industrial age; as a mere spectacle it is brilliant beyond description.

Life, color, motion and demonstration are proclaimed as the keynote of the Louisiana Purchase Exposition. In all departments where practicable the making of things has been done by skilled hands with newest machines and appliances. The latest processes of production are in operation. From raw material to finished products step by step the evolution of useful things may be followed. The entire plan of the exposition is educational.

While the greatness of an exposition does not consist in immensity alone, it is well to look at the figures, which give some idea of the magnitude of this undertaking.

The World's Fair of 1904 occupies 1,240 acres. The World's Columbian Exposition at Chicago embraced 633 acres. The Exposition of 1900 at Paris occupied 336 acres; the Pan-American at Buffalo had 300 acres; the Centennial at Philadelphia, 236 acres. There is embraced within the limits of the World's Fair of 1904 at St. Louis acreage almost equaling the aggregate of the Columbian Exposition, the Centennial and the Pan-American.

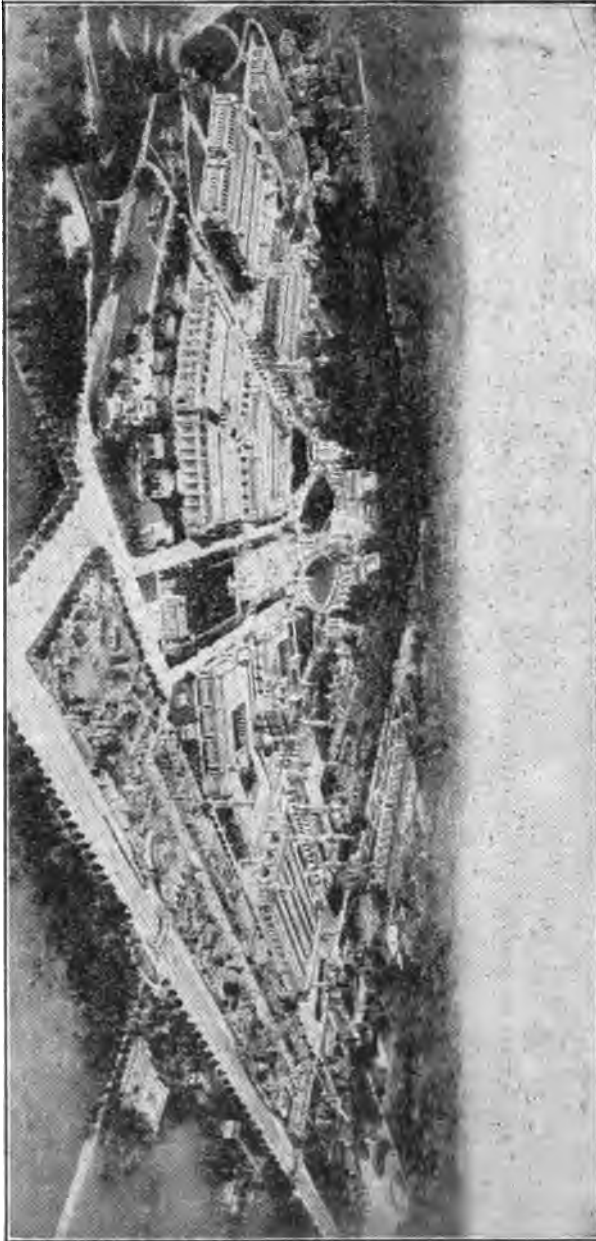
The main exhibit palaces at St. Louis have under roof 128 acres. Those at Chicago covered 82 acres; at Buffalo, 15 acres. Until the Universal Exposition at St. Louis, outdoor exhibits cut very little figure. At St. Louis there are 100 acres of these outside exhibits, some of which rival in popular interest the indoor displays.

The first exposition building ever set apart for education is the Palace of Education at St. Louis. To the classes of exhibits which were shown in the great Liberal Arts Building at Chicago, this Exposition devotes four of its main exhibit palaces, containing twice the floor space of the Chicago building.

The arrangement of the twelve great exhibit palaces is in the form of a lady's fan. Eight of these palaces are upon a level sixty feet below the others. As the visitor enters the broad central avenue which bisects the group his eye will meet a vista of gardens, cascades and architectural beauty never be-

fore equaled in any land. These cascades, flowing from a hill surmounted by a grand semi-circular colonnade stretching away

Bird's Eye View of the Great World's Fair.



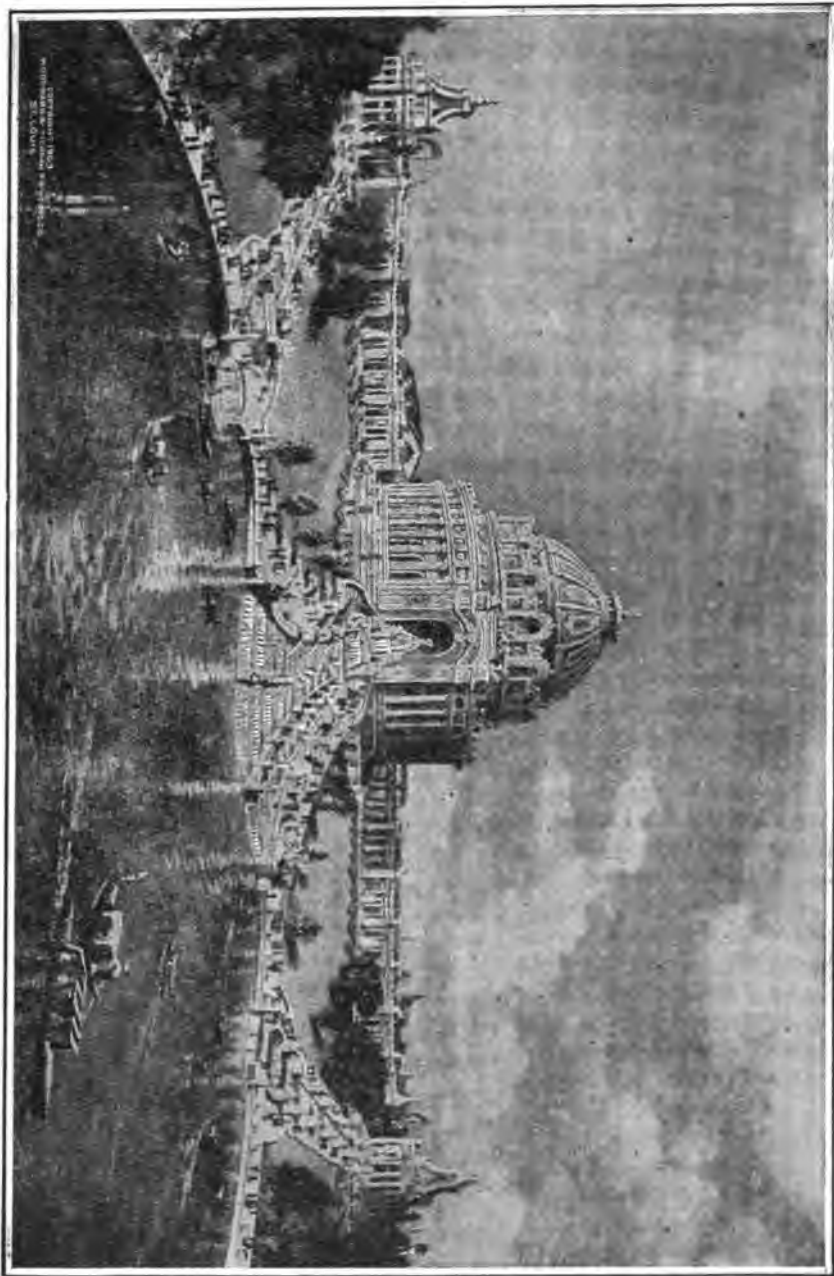
on each side of a Festival Hall, form the central picture of the exposition. The face of the hillside is terraced, while the

cascades, bordered by fanciful sculptured groups, suggesting somewhat—though on a far grander scale—the famous cascades at St. Cloud, near Paris. At the foot of the hill, the Grand Basin, with its fountains, mirror this impressive spectacle. Ninety thousand gallons of water per minute are discharged into the Grand Basin from the three cascades when they are in full operation. At night the spectacular electric illuminations far surpass anything presented at Chicago, Paris or Buffalo. From the Grand Basin, transverse lagoons stretch through the main avenue between the Exhibits Palaces, giving a course more than a mile in length

The Colonnade of the States at the crest of the hill is fifty-two feet high and more than a quarter of a mile in length. Here are placed sculptural groups symbolical of the twelve States and two Territories formed from the Louisiana Purchase. The Festival Hall in the center is one the most ornate of the Exposition structures. It is two hundred feet high, surmounted by an impressive dome commanding a superb view of the Exposition activities. It covers more than two acres. At the ends of the great Colonnade are circular restaurant pavilions, each more than one hundred feet high, surmounted by domes echoing somewhat the great central dome. Beyond the Colonnade, on the top of the hill, isolated from the other Exhibits Palaces, and some seventy feet higher, stands the Art Palace.

This magnificent central scheme includes in one view the two particularly impressive features of the Court of Honor at Chicago. The Festival Hall is the equivalent of the Administration Building at one end, and the Colonnade recalls the lovely Peristyle at the other end of the Grand Basin at the Columbian Exposition.

The radiant beauty of the night scene will far surpass the expectations of anyone who attempts to picture it in advance of its realization. In the creation of the night picture every builder's art has a share. The sculptor's rare work, the architect's rich designs, the landscape architect's clever arrangement of fountains, plants, flowers and trees, all take on new beauty under the electric glow of half a million bulbs. Almost the entire energy of the Exposition power plant is available for the electric picture. The Mechanical and Electrical Bureau has worked out a scheme of illumination that promises results never before realized in spectacular magnificance.



The Cascades and Festival Hall.

Next to the magnificent fountain, cascade and electrical effects and the exhibits in the twelve great palaces, public interest will doubtless center in the foreign buildings and in the exhibits of our island dependencies, particularly that of the Philippines. To many visitors to the Fair the Philippine exhibit will be the most interesting and instructive sight at the Exposition.

Next in interest come the buildings and exhibits of China, Japan, Germany and France. Germany far surpasses all previous exhibits of that nation at American expositions. The main building of the German group reproduces "Charlottenburg Castle," one of the Emperor's palaces near Berlin, built according to plans by Germany's great architect, Schlueter. The restaurant pavilion erected in conjunction with the building also is designed by this architect.

Among the special exhibits are the treasures which the Emperor himself designated for exhibition. A number of rooms from the Charlottenburg Castle are faithfully reproduced, following the furniture and the hangings of the original. The "Oak Gallery," the Brandenburg Chamber, the Stair Room and the vestibules are among these reproductions. The Gobelin Salon is also a feature of the building.

The pavilion is 165 feet high and occupies a ground space of 10,000 square feet. The dome has an observatory from which visitors can overlook every portion of the Exposition grounds, including the main cascade picture. In this observatory the Bochumer Guss Stahlverein has installed a chime of big bells which sounds the hours of the day. Here also a big searchlight is installed to sweep the entire Exposition grounds.

The French National Pavilion is a reproduction of essential features of the Grand Trianon, of Versailles—a handsome villa erected by Louis XIV for Mme. de Maintenon. It was one of the favorite places of residence of the first Napoleon. France makes a better showing at St. Louis than at any previous exposition held outside of France.

The British government has erected a pavilion, the main hall and the principal front of which are modeled after the Orangery, or banqueting hall, of Kensington Palace, London, "a masterpiece of garden-architecture built by Sir Christopher Wren for Queen Anne in 1704." Beyond the banqueting hall is an inner court ornamented with fountains and statuary.

As his personal contribution to the Exposition, King Edward sends for exhibition at St. Louis the late Queen Victoria's priceless collection of Jubilee presents. The American people, he said, had shown such high appreciation of his mother that he believed this memento of her reign would prove interesting to the people of the United States and Canada.



The Palace of Varied Industries.

The Louisiana Building is a reproduction of the Old Cabildo, where the transfer of Louisiana Territory was effected. The New Jersey Building is modeled after Washington's headquarters at Morristown, N. J. The Virginia State Building is a reproduction of Jefferson's famous home, Monticello. The Massachusetts Building reflects the home of Longfellow, at Cambridge, Mass. The Mississippi Building is designed after Beauvoir, the home of Jefferson Davis, President of the late Confederacy. California has erected a building in the style of the old Spanish Missions, and Oregon patterns its building after an Indian wigwam of colossal size—the timbers to cross 180 feet above the ground! The Texas Building follows in design the Alamo, San Antonio.

This Exposition surpasses all previous expositions in the

richness and variety of its decorative sculpture. The appropriation for this department is half a million dollars, of which about \$100,000 is for permanent work. The general scheme designed to symbolize the history, local color and allegory of the Louisiana Territory by representing the four successive occupants of the soil: First, the wild animals; second, the Indians; third, the discoverers and pioneers; and, fourth, the advanced races—French, Spanish and American—which have built up its present state of civilization. The sculpture symbolizes activities rather than actors; hence portraiture has been only moderately employed. The figures throughout are of heroic cast, in harmony with the size of the grounds, courts, buildings and open spaces.

The St. Louis Fair will be a paradise for photographers, not only in its vistas of unrivaled scenic beauty, but in its freedom from extortion that was levied upon kodakers by the concessionaires at previous expositions. The photographic concession was secured by a Chicago politician who, fortunately, was unable to persuade the directory to recede from its position that kodaks should be admitted free. Already a continuous procession of kodakers may be seen filing through the gates on the bright sunny days.

Of course, it is the "greatest" exposition the world has ever seen. This is world's fair talk, to be sure, but when you come to think of how much easier it is to build a great fair now than it was in 1892, when Chicago built the "White City," and how much more there is to exhibit in the way of industrial progress than there was then, the statement that the St. Louis fair eclipses all previous achievements in this direction does not seem such an extravagant statement, after all.

And why shouldn't St. Louis surpass all the world's fairs that have been held in Europe or America? She has the benefit of all the experience of Paris, of Chicago, of Philadelphia and of Buffalo. She can profit by their mistakes and improve upon their successes. She has the benefit of new ideas in world's fair architecture, new methods of construction, new schemes of classification and installation of exhibits, new achievements in electrical and water effects, new and more effective plans of administration.

She has in Forest Park a stretch of 1,200 acres of the most picturesque topography that one could imagine, broken into undulating hills and ravines, lending itself to the most charming creations of the landscape artist, the sculptor and the artificer in staff and stone.

She has more money than was ever expended upon any fair. More than all this, she has the favoring winds of industrial prosperity instead of the threatening gales of panicky conditions which menaced the success of the Chicago Fair.—*Fine Arts Journal.*

CLINICAL NOTES.

Clinical Report on the Efficiency of Antiseptics in General Practice.

By W. T. PATHER, M.D.,

WESTBOROUGH, MASS.

If one would seek the origin of antiseptics it might be found when Adam first toiling to earn his bread washed the dusty perspiration from his manly arms.

The evolution of antiseptics is from the first instinct of cleanliness, for there can be no perfect antiseptics without cleanliness and no perfect cleanliness without antiseptics.

The natural instinct of the Animal Kingdom is for cleanliness; there is no brute so degenerate that he has not this instinct; even the dirty pig, is by nature, inclined to cleanliness.

Through all the history of medicine we can easily trace this natural desire for antiseptics. After all the ages of neglect, comes forward Lister. Like St. Paul, he says to the surgeon and the physician: "I perceive your altar to the unknown God, whom ye ignorantly worship, him I declare unto you."

Lister's great mission was prompted by reason of necessity. It is another illustration of the old law: "Necessity is the mother of invention."

Lister was on duty in the Royal Infirmary at Edinburgh. He was appalled at the results of uncleanness, he was a constant witness to the fact that no matter how skilfully operations

were performed, if the laws of cleanliness were not faithfully carried out, unfortunate results would be likely to follow.

In 1870, while a medical student, I walked about the wards of the Royal Infirmary in Edinburgh witnessing the splendid efforts of Lister to overcome the conditions of filth which were so markedly present. I have seen dirty patients in Continental hospitals, but never in my life, before or since, have I seen human beings so dirty; the dirt was positively caked upon their legs so that it was really difficult to remove it. It was amid such surroundings that Lister had the good sense to make a vigorous effort for cleanliness, and this happy thought patiently and persistently developed has won him fortune and international fame, as well as the coveted title of Sir.

Other men, in this country, were just as eagerly opposed to dirt as was Lister, but in our American hospitals we could tap a patient without the fear of erysipelas.

In spite of all that remains to be accomplished in the way of cleanliness the revolution which has taken place in that line during the past 25 years is wonderful indeed, and it would seem

that progress in the direction of cleanliness has kept in line with other improvements of the quarter-century.

Cleanliness is next to Godliness, neglect of cleanliness is a direct violation of the ancient laws of God to man. Dreadful as are the results of war it has been the means of teaching lessons which have had beneficial effects upon many millions of non-combatants. Enlightened surgeons, gazing with horror upon neglected and putrid wounds, have recognized the necessity for cleanliness.

Thus may be traced the history of antiseptis. Listerism is but a link in the long chain of medical effort directed toward the mitigation of suffering. Indeed, as often happens in the culmination of human events, one man derives benefit from the faithful, unrequited efforts of thousands of his predecessors. No doubt, therefore, the honors which have been showered upon Lister exaggerate the importance of his individual attainments, great as may be the debt which all medical science undoubtedly owes him. The first attempt at cleansing of wounds marks the origin of practical antiseptis. Wherever we find diseased secretions we wash them away and endeavor to cleanse the parts thoroughly. Antiseptis is, therefore, merely another word for cleanliness.

If one would read a brilliant article on the "History of Antiseptis," we would refer him to that of Dr. Roswell Park, in the "Reference Handbook of the Medical Sciences." It would seem hardly possible to add anything to a dissertation so complete.

The study of hygiene in general is antiseptis in the process of development. In modern surgery, Esmarch

ably seconded the efforts of Lister when he demonstrated that the first and most important principle in the treatment of wounds is "to keep at a distance all injurious influences which hinder or retard their healing." In the early days of Listerism, carbolic acid was almost the only antiseptic employed, and so extravagant were the claims made for it that its over-use soon caused a reaction, and newer and better antiseptics were employed—among these was iodoform. Professor Brunz carried the use of this preparation well over the borderline of safety. The cases of poisoning from iodoform equal those of carbolic acid. Less dangerous preparations are now sought after, and eucalyptus, bismuth subnitrate, borax, etc., have been experimented with, and mercuric chlorid has found many advocates.

But long before modern surgery distinctly employed preparations known as antiseptics, Pliny (A.D. 77) referred to the remarkable healing qualities of borax, which he described under the name of chrysocola. Almost every work on surgery since that time has acknowledged its value. In recent years the use of borax and its preparations has been repeatedly advocated by distinguished surgeons. The most decided testimony has been advanced concerning its efficacy, but the profession, as a rule, have with extraordinary determination shown a disinclination to trust to its antiseptic property and it has not been employed as much as its merits deserve.

About 20 years ago, Prof. Barff, of London, conducted some remarkable experiments in antiseptis. By combining borax and glycerin he produced a scientific, definite, chemical com-

position, known as boroglycerid. With a large quantity of boiling water a definite hydrate can be formed which does not decompose, and is not decomposed when diluted in the proportion useful in surgery—1 part to 20 or 30 parts of water. Such a solution is inodorous, is non-irritating to any wounded surface, has a slight saline taste and is entirely innoxious when applied to a wounded surface. Boroglycerid has been most thoroughly put to the test in the wards of the Charing Cross Hospital, London. In certain instances the worst cases were treated with boroglycerin, while others received the iodoform and carbolic acid treatment. In comparing these antiseptics in this manner, boroglycerid was easily recognized as the best surgical dressing; the wounds treated with it quickly presented a healthy and natural appearance; there was entire absence of the objectionable features which invariably attend the employment of other antiseptics; there was no discoloration of the urine, no rise of temperature, and there was absence of that peculiar discomfort which iodoform and carbolic acid dressing produces.

This search after an ideal antiseptic has been carried on vigorously during the past ten years, and undoubtedly there are many preparations which reflect the highest credit upon the skill and enterprise of our American chemists. The necessity for antiseptics created the demand for them; the filthy patients in the general hospital in Edinburgh started Lister to work out the problem for relief and for the diminution of the death rate. Those of us who came in contact with suppurating wounds in the sixties will

never forget the nauseating odors peculiar to surgical cases. What better incentive to cleanliness and to antiseptics. The ideal antiseptic is not only a germicide but must also be non-toxic. Within the last few years since so much attention has been given to appendicitis, intestinal asepsis has attracted more attention. Every autopsy adds its testimony to the necessity for systematic attention to the hygiene of the alimentary canal.

Generally speaking, wherever we find diseased secretions, we remove them, excepting in the intestines. How the foul and neglected mouth, esophagus, stomach, duodenum, ileum, colon and rectum are to be anything else than a constant menace to health, is beyond ordinary comprehension. This sanitary neglect of the alimentary canal readily paves the way for typhoid fever and appendicitis. When we understand intestinal asepsis better these diseases will not be so common.

The latest preparation, known as Germiletum (opposed to germ life) contains the most desirable features of its best predecessors.

COMPOSITION.—[$\text{HBF}_4 + \text{BOH} (\text{OC}_6\text{H}_4\text{COOH})_2 + \text{BOH} (\text{OC}_6\text{H}_5\text{COOH})_2 + \text{C}_3\text{H}_5\text{BO}_3 + \text{CH}_3\text{O} + \text{C}_{10}\text{H}_{14}\text{O} + \text{KMnO}_4 = \text{C}_{10}\text{H}_{20}\text{O} + 24\text{H}_{23}\text{N}_3\text{Cl}$]

CHEMICAL FORMULA.—Germiletum is a slightly alkaline chemical solution of borohydrofluoric acid, borosallybenzoic acid, boroglycerine, formaldehyde with menthol and antiseptic aromatics.

The many uses of this excellent preparation will suggest itself to the general practitioner. Literally, from birth to the grave—the use of Germiletum in the first bath and especially in the care of the stump, with absorbent cotton; in the care of the dead, by saturating sheets of absorbent cotton with Germiletum, undiluted, and spreading them over and about

the dead body. In the care of those dying from infectious diseases this preparation is of the greatest convenience and protection, and in obstetrical cases it is without an equal.

Recently, many cases of gangrene have been reported following the application of carbolic acid solutions to fingers and toes. Carbolic acid should never be used as a surgical dressing, especially to the extremities; Germiletum can always be safely used. For excoriated surfaces saturate absorbent cotton and apply directly to the abraded surface and cover with a firm light bandage.

For the steam atomizer, in the treatment of catarrh of the throat, and in cases of scarlet fever and diphtheria, Germiletum is most convenient; use undiluted, as the action of the steam in the atomizer dilutes it sufficiently. The steam atomizer is my favorite method of application.

Internally Germiletum is non-poisonous and as an internal antiseptic is reliable. Cases of diarrhea, cholera, fermentative dyspepsia, typhoid fever, appendicitis and general intestinal disorders are all benefitted by this antiseptic treatment. Typhoid fever is a putrid infection, and yet, almost every conceivable treatment has been recommended with the exception of an antiseptic. Recently, carbolic acid has been employed by some physicians as an intestinal antiseptic, but clinical experience suggests great caution in its use; and even where it can be exhibited with safety, it is unquestionably inferior to this combination.

As a mouth wash the solution is 1 to 2 or 4 teaspoonfuls in a half glass of water; this is peculiarly useful to those who wear false teeth. I have repeatedly had under my care patients whose throats were in a most painful condition from irritation caused by the teeth plates; the action of the saliva and the fluids of the mouth upon the teeth plates creates a most irritating

fluid containing poisonous germs of considerable potency. This uncleanly condition has a disastrous effect upon the mucous membrane of the mouth and throat, and its injurious influences are so wide-reaching that I have found many patients actually ill from this cause alone. Gargling the throat morning and evening, and placing the teeth plates in a glass containing a solution of Germiletum. If this method of disinfection of teeth plates is persisted in a marked improvement in comfort and health is sure to follow.

Bad breath is quickly abated by the use of Germiletum internally or as a mouth wash. No detrimental after-effect can arise from the use of Germiletum, as it is unlike other antiseptics—having no acid reaction.

In pruritus of anus, vulva or scrotum Germiletum is very healing.

The use of the sponge bath is rapidly coming into favor in this country. For everyone—the tired doctor or traveler, the evening and morning sponge bath ranks next to sleep as a restorer of weary nature. By adding two or more teaspoonfuls of Germiletum to the basin of water a most refreshing tonic is afforded, and for feeble persons its use is especially indicated. The deodorizing value of this preparation makes it peculiarly indicated in the care of the armpits and the toes, and on the folds of the skin, cleansing and destroying disagreeable smells. For the care of the scalp and for the treatment of the eczemas peculiar to infants Germiletum is unexcelled.

SUMMARY.—Above I have presented only a few of the important uses of Germiletum. Very many others will readily suggest themselves to the physician, obstetrician, and dentist. Its usefulness is limited only by the ravages of destructive germs that "pervade the atmosphere of every inhabited space."

CLINICAL NOTES.

EPILEPSY:

ITS TREATMENT AND CURE.

By JOSEPH G. LEVY, A.B., M.D.,

NEW YORK CITY.,

Physician to the Out-Patient Department, Harlem Hospital.

In the treatment of epilepsy, a systematic study of the patient is the first step and every possible source of local irritation removed. Errors of refraction, nasal disease, pharyngeal tumors, dental faults, gastrointestinal disturbances, hemorrhoids and fissures, constipation, diarrhea, genital troubles, etc., must all be sought and if present removed.

Autointoxication from the stomach, intestines and kidneys, if present, must be rigidly treated and stopped.

As we all know, hygienic regulations are of the greatest importance; the diet should be nourishing, easily digested and of reasonable amount. Proper exercise and baths, and especially out door life are essential and must be carefully observed. Rooms, ventilation, clothing, occupation and all habits of the patient are worthy of careful study and full consideration.

Under such a régime improvement is noticed in many cases, but always must we turn to intestinal administration as the real means for lessening the attacks and obtaining a "cure," while hygienic rules are but an adjunct to the successful administration of the latter.

Surgical measures occasionally yield

good results, particularly in focal epilepsy. It is a curious fact that epileptic attacks will be checked for a time by almost any surgical operation and I have seen venesection produce excellent results for months in a severe case, but never have I seen permanent results accrue except in cases of Jacksonian epilepsy.

Turning to the drugs, we think of the time-honored bromids; the sodium and potassium salts are mostly employed, the former, however, being better borne by the stomach. Other remedies sometimes employed are—arsenic, nitroglycerin (hypodermatically), cannabis indica, silver nitrate, zinc, borax, chloral, antipyrin, trional and tetronal. Cures by the bromid treatment, however, are not to be expected. It is at best a palliative treatment and one often fraught with great disadvantages. As a general rule, in order to suppress the attacks, an amount of bromid is required that maintains constant hebetude. It is of frequent occurrence to see patients brutalized by bromids go months without fits, but with a loss of mental and physical activity, and then have the attacks increase with renewed frequency and violence, or all the signs

of brominism occur, acne, sore throat, gastric disturbance, etc.

And so I found it with other drugs of a similar nature, as opium, morphin, chloral, etc., until it was hard to decide which was the worst, the disease or the remedy.

Of late years, however, I have been using a therapeutical preparation, Neurosine (Dios), which has yielded me brilliant results and at the same time depose with the ill after-effects mentioned above.

Neurosine is a thoroughly therapeutical product free from opium, morphin, chloral or other deleterious drugs—a preparation that, in my hands, has always attained the happiest results, leaving no unpleasant or dangerous after-effects, forming no “habit,” causing no loss of physical or mental activity, and yet one which, as a neurotic, anodyne and hypnotic has served me with far more success than the other therapeutic properties commonly used and the following cases collected from my hospital and private practice are but characteristic of a great number in which Neurosine was used:

CASE 1.—Thomas A., aged 15 years, was first brought to me February 18, 1902. His mother had noticed that at certain times the patient's face suddenly paled, his expression became blank, pupils dilated; in a few moments he recovered consciousness, but for a short time acted in a dazed manner, and on inquiry it was found that the patient was not cognizant of any lapse of time. Fine clonic movements were noted during the time of the attack. At the time I saw him attacks were becoming more frequent and of longer duration.

Diagnosis: Epilepsy of petit mal

type. Treatment: No reflex irritation could be found. The boy was taken from school and put under a strict hygiene and his diet restricted. Neurosine was ordered, a teaspoonful three times a day and in one month's time reduced to a teaspoonful, night and morning, and was continued in these doses for three months. He had one attack three days after treatment was instituted, but of a mild character. I have seen the patient every month since then and up to the present date he has had no return of the symptoms and has showed marked improvement both mentally and physically.

CASE 2.—Mary E., aged 32 years. I was called to see her August 15, 1903. At that time she was in the midst of an epileptic attack. On inquiry I learned that the patient suffered from similar attacks about once a week; the attacks were issued in by an “aura of sound,” and the attack itself was of severe nature and was of about one hour and a half duration, leaving the patient totally unfit for her usual duties. She had been under the care of three doctors but with no results and was rapidly becoming a nervous wreck. Treatment: I put her under the usual hygiene and ordered Neurosine, one tablespoonful four times a day, and a tablespoonful dose at the first approach of the aura. The next attack occurred three weeks later and was but of thirty minutes duration. At the time of the next aura she took a tablespoonful dose of the Neurosine and applied cold to the spine effectually aborting the attack. After twelve weeks of this treatment the attacks disappeared and from that day she has been free from all her former symptoms, has increased in weight and is

now enjoying the happiness of perfect health.

CASE 3.—Hazel S., aged 8 years
Diagnosis: Nocturnal epilepsy. The child had been treated for the last two years with the usual remedies and with the effect of simply prolonging the intervals between attacks. I at once ordered Neurosine in teaspoonful dose in the morning with double the quantity at bedtime. The child showed improvement from the first dose and three years have now past without any return of the former attack.

SUMMARY.

The above cases which, as previously stated, are but characteristic of over 200 treated by the author with Neurosine, and includes every form of epilepsy.

Neurosine is a therapeutic property of undoubted value in all forms of epilepsy, it is absolutely free from deleterious drugs and can be given to both children and the aged with perfect safety; it forms no "habit," causes no gastric disturbance and mars neither the mental or physical properties. If taken in time it will, in a great number of cases, abort the attacks, and in *all* cases of epilepsy, if persistently used, will act, not only as a palliative measure, but as a *cure*.

[56 East 118th St.]

An Absorbing Surface.

We do not always keep in mind the wonderful capacity of the skin to absorb various medicaments; if we did, we would more often use remedies in that way and thus save the overtaxed digestive tract.

One of the most successful methods

of treating rheumatism is by using locally the product known as Rheumacilate, to insure receiving the chemically pure product (Synthetic Methyl Salicylate, C.P.) as it is quickly absorbed and the pain and distress often yield in a remarkably short time.

Rheumacilate may properly be described as a topical anodyne, analgesic, antirheumatic antipyretic, and is not only useful in rheumatism, but in neuralgia, sciatica, myalgia, lumbago, orchitis, epididymitis and, in fact, all form of pain due to a rheumatic or gouty condition, and we include in this list all the various manifestations of the uric acid diathesis.

Messrs. Fries Bros., 92 Reade St., New York, have received enthusiastic reports as to the value of Rheumacilate from a number of careful clinicians and we would suggest to our readers the advisability of writing to them for further information in reference to Rheumacilate.

Indications for the use of Rheumacilate together with details in reference to various modes of application will be furnished by the firm named above.

Glyco-Thymoline in Phthisis and Tubercular Invasion of the Submaxillary and Cervical Glands.

It seems to have been thoroughly established that in most cases tubercular infection has been through the mouth and nasopharynx. This being the case a protection of these parts from invasion is of the first consequence. In a recent note on this subject Prof. Arnulphy, of Paris, says that in addition to other methods to protect those persons as physicians, relatives, nurses, etc., who are compelled to come in contact with consumptive patients, the frequent daily use of

Glyco-Thymoline as a mouth, throat and nasal wash will insure a degree of immunity from infection that reduces the danger to a minimum. To those already suffering from the disease, Glyco-Thymoline has proven of great value as a means of keeping the mouth, nose and cervical glands in an aseptic condition with a marked alleviation of cough and irritation. The action of the solution of Glyco-Thymoline on the mucous membranes is soothing and distinctly exosmotic, increasing the capillary circulation.—*N. Y. Med. Jour.*, Jan. 9, 1904.

Firwein (Tilden's) in Tuberculosis.

Much has been written in late years about sanitarium and climatic treatment for consumption and there can be no doubt of the efficacy of such treatment. Unfortunately, the prevalence of tuberculosis is so widespread among the masses who are almost entirely dependent upon their own work or upon the meager income of the family for sustenance that unless the state steps in and provides free sanatoria in suitable locations it is useless to suggest this treatment for such sufferers. The toilers in our large cities affected with consumption can not always leave their homes and shops to take up an outdoor life and unfamiliar outdoor work, much of which would be beyond their strength to perform.

While it is important to impress upon these sufferers the importance of fresh air, by day and by night, and to encourage hygienic reform which will tend to increase the resistance of the system against the ravages of the disease and to prevent its spread to the healthy, it should not be forgotten that Tilden's Firwein is one of the most potent remedies for all forms of tuberculosis. The suggestion of Cav-

azzoni that iodine in tuberculosis acts not merely as a pulmonary antiseptic, but probably exerts an antitoxic action similar to that which, according to Brunozzi and Luceesini, it exerts in typhoid fever, goes a long way to explain the demonstrated efficacy of Firwein as a remedy for consumption. Besides iodine, Firwein (Tilden's) contains bromine and phosphorus held in solution by an elegant wine of fir, a product of the laboratories of the Tilden Company.

Constipation,

Always a lurking danger, is all the more prominent at this season of the year when the more or less confinement of the winter months has added to the sluggishness of the bowels.

To the constipation with the backing up of the ptomaines and toxins in the system may be traced various symptoms, on account of which the laity at this time popularly suppose that they need a spring tonic. What they really need in most cases is the proper cleansing of the intestinal tract. Many drugs or combination of drugs have been used to give the laxative or cathartic effect, but all are more or less harmful in cases of habitual constipation. In Pancrobilin, which contains $\frac{1}{4}$ grain of ox bile and $\frac{1}{4}$ grain of enzymes of the pancreas, we have an ideal remedy in the shape of a pill for all cases of habitual constipation. Pancrobilin is so prepared that it is not effected by the digestion of the stomach and acts only in the intestines, where it not only aids in the digestion of the food, but stimulates the villi to absorption and also stimulates peristalsis. Habitual constipation in children can be overcome by taking 5 or 10 drops of the Liquid Pancrobilin once or twice a day.

CLINICAL NOTES.

DYSMENORRHEA :

ITS ETIOLOGY AND TREATMENT.

By J. E. ALTER, M.D.,
NEW YORK CITY.

In treating dysmenorrhea but little can be accomplished toward a cure unless we regard the condition merely as a symptom and not as a disease of itself. In private practice the physician is often confronted with cases of obstinate dysmenorrhea which have long resisted treatment by means of local application and which will continue to be unrelieved unless the patient is treated properly. Such cases, as a rule, will be found in young women of nervous temperament who, though in fairly robust condition otherwise, suffer great pain preceding and during the catamenia.

Pain, to a greater or less degree, is so common at menstrual periods that it may be considered a normal accompaniment of the process, and a painless flow may be looked upon as an anomaly. It is the more severe cases we have to consider in discussing dysmenorrhea—the moderate ones are seldom brought to our notice.

Dysmenorrhea is usually divided into five forms—the obstructive, membranous, congestive, neuralgic, and ovarian. Concerning the obstructive and the membranous varieties but little need be said if we consider the dysmenorrhea merely as a manifesta-

tion of some disorder. Surgical procedures are much more efficacious in these two forms than medication; the opening of an imperforated hymen, the dilatation of a narrow cervix, curettage, etc., are, in many cases, the best method of relieving the condition.

The congestive, ovarian and neuralgic forms are of more obscure origin than the two others and must be treated as manifestations of some diseased conditions, either in the uterus itself or its adnexa, or in some remote part of the body. This method of treatment has yielded very good results in cases which have been under my care, some of which are reported below.

Of the three varieties last mentioned the congestive is the one most frequently met with. Nearly all the disorders of the womb and its appendages may be cited as among its causes. Any interference with the normal uterine circulation or any morbid condition in the lining mucous membrane will produce the congestive form of dysmenorrhea. The womb, owing to such pathological changes become surcharged with blood, either because there is too much brought to the organ to be carried away by the veins or because the venous system does

not remove as much blood as under healthy conditions. When this congestion is greater than the patient can tolerate one of the first results is pain of greater or less severity which continues as long as the congestion remains. Congestive dysmenorrhea is much more symptomatic than either the neuralgic or ovarian forms, and its prognosis is better for this very reason. We are better able to understand the causal conditions which have brought about the congestion; once these are removed, the dysmenorrhea disappears rapidly.

The distinction between the congestive and neuralgic forms is by no means arbitrary, very often the same condition which cause one may, in an indirect manner, cause the other, e.g., a lowered tone of the nervous system may cause impairment of the innervation of the uterus, thus interfering with its circulation, bringing about a congestion, though the dysmenorrhea resulting would, from its first cause, be classified as neuralgic.

In discussing neuralgic and ovarian dysmenorrhea, which really forms one class, we have to deal with two types of nervous dysmenorrhea—one in which the neurosis is the only discoverable cause, and another, in which it is secondary to some disease of the pelvic organs. In many such cases the neurotic condition may be caused by a displacement of the ovary without any pathological changes whatever.

Hysteria is probably at the foundation of that type where the trouble is the result of a neurosis simply. But the intimate relations of the reproductive organs with the nervous system and ganglia of the rest of the body

are such that any impairment of the nervous condition may manifest itself in a neuralgia of the uterus and its appendages. Ovarian dysmenorrhea may be induced by changes in size, position and consistency of the ovaries. On the other hand, as in the neuralgic form, the ovary is not by any means the only seat of the trouble—this may often be found in the uterus itself, and in such cases, where there is no doubt that the site of the most acute pain is in the womb, we often can not discover the slightest cause by careful bimanual and instrumental examination. The pain in all forms is usually intense, it is influenced by the amount of the flow, its duration and severity being less when the flow is profuse, and, *vice versa*. In the ovarian form the pain is greatest over the site of the ovaries and frequently comes on three or four days before the expected period, and is relieved when the flow starts. There is headache and nausea, and pain is elicited by pressure on the ovaries.

The treatment of dysmenorrhea is much simplified when we understand the etiological factors underlying its cause. Those patients with a delicate nervous system require tonics, change of climate will often be beneficial, wholesome food and early hours of retiring. In many cases much good is derived by regulating the daily life, as in the treatment of neurasthenia. For open-air exercise I much prefer horseback riding, where it is practicable. Electricity has been tried with some success in a number of cases. Of drugs, *virburnum prunifolium* has given the best results. Belladonna, asafetida, chloral, etc., have been each in its turn lauded as almost specific, only to

ultimately disappoint its advocates. Of late I have been using Dioivurnia, a preparation of viburnum, especially in the congestive and ovarian forms of dysmenorrhea, and have succeeded in relieving quite a number of obstinate cases. In treating the neuralgic variety it is absolutely essential that the nervous system be toned up, otherwise our efforts will be in vain; in pursuance of this policy I have been in the habit of combining Dioivurnia with Neurosine, a nerve tonic which has given me excellent results in neurasthenia. By means of this combination of antispasmodic and nervine at least two of my cases of neuralgic dysmenorrhea have been absolutely cured.

CASE 1.—R. M., aged 26 years, unmarried; seamstress. I saw the patient for the first time in the winter of 1902. Menstruation began at the age of 15 years. Since she was 18 years of age the patient had suffered acutely at every menstrual period, the pains coming on regularly on the fourth day preceding the flow; it was intense, colicky in character, and while it lasted the patient was completely prostrated; the pain was sharp, radiating from the groin along both sides, especially the left, and extended along the anterior parts of the thighs, involving the calves of the leg. The ovaries were extremely tender to the touch. She had a severe frontal headache and vomited regularly at each period. The hymen was patent but the patient refused to permit examination per vaginam. The diagnosis was neuralgic dysmenorrhea. The patient was put on a diet and her mode of daily life regulated. She was required to spend a number of hours each day in the open air during the

intermenstrual period, and suitable exercise was ordered. She was put on a pill of strychnin, arsenious acid and iron. The patient improved greatly, and the two succeeding periods were much less distressing than usual. About three months later I was again called to see the patient and found her in the throes of a very severe attack of dysmenorrhea. I prescribed belladonna, asafetida and opium, in an enema, as recommended by Mundé. The pain was much relieved, but this effect I attributed rather to the analgesic effect of the enema than to any influence over the cause of the dysmenorrhea.

The pain returned with unabated force the next day and I prescribed Dioivurnia in full doses, in addition to which chloral hydrate was administered. Again the patient was relieved and this time the dysmenorrhea did not return when the effect of the chloral had worn off. During the rest of that period her condition was much better and there was comparatively little distress.

The patient continued taking the Dioivurnia during the intermenstrual period; she reported that each succeeding flow was much less distressing, the pain being very much less in severity and limited to the ovaries, while the headache, vomiting and general malaise had entirely disappeared. I saw her again in December, 1903, and to my gratification learned that her menstrual flow was absolutely normal, there being no premenstrual pain and little distress throughout the period.

CASE 2.—S. B., 19 years of age; married. This patient was a young married woman who was somewhat hysterical and had been under treat-

ment for neurasthenia. She had been menstruating for five years and during that time had not known a single period which was not attended with great pain and prostration. The menstrual flow was scanty and lasted but three days, besides being very irregular. On examination the uterus was found anteverted and the left ovary was slightly prolapsed. There was intense vaginismus. The pain usually started a few hours before the flow commenced and was almost agonizing. It was located in the groin, sides and back, and was neuralgic in character. As soon as the flow started the pain in the groin and back was very much moderated but that in the ovaries remained the same and continued while the flow lasted. I ordered absolute rest and instituted the same treatment as for neurasthenia. The patient's diet and life were regulated, and fresh air and exercise ordered. For medication, strychnin and Bland's pill were given; local applications of equal parts of ichthyol and glycerin on tampon were made daily. The next menstrual flow was very little better than the preceding. Profiting by the experience in the first case reported, I ordered Dioivburnia and combined it with Neurosine, a nerve tonic I had been using with success in depraved conditions of the nervous system. This treatment was kept up unremittingly for a long time. Owing to the neurasthenic condition of the patient I could not expect as rapid improvement as in Case 1. But while the improvement was slow it was evident and steady; each menstrual period saw a decrease in the dysmenorrhea and an improvement in the amount and character of the flow. She has continued

taking the Dioivburnia and Neurosine up to the present day; the dysmenorrhea is vastly improved and the overstimulation of the nervous system greatly lessened.

I have no doubt that when this young woman will have become entirely well as far as her neurasthenia is concerned, the dysmenorrhea will no longer distress her, and this condition is apparently being brought about rapidly under the influence of the Neurosine.

CASE 3.—A. L., aged 28 years; married. She has suffered with painful menstrual periods for a number of years, during which time she was treated by various physicians but obtained very little relief. A year before she came to see me she consulted a specialist in gynecology who advised dilatation of, what he considered, an abnormally narrow cervix; this was performed, but had no effect whatever on the dysmenorrhea. A few months later her uterus was curetted for endometritis in the hope of thus obviating the cause of the trouble, but this was also without effect.

The pain was limited to the womb and usually started two days before the flow lasting as long as the flow persisted. The severity of the pain was in direct relation with the amount of blood passed—if the flow was scanty the patient suffered intense pain, and *vice versa*. The dysmenorrhea was most intense just before menstruation commenced. Pressure on the ovaries elicited no pain, merely an exaggerated tenderness. On examination the cervix was found normal in shape, with bilateral lacerations from a previous childbirth. The position of the uterus was normal.

From the character of the pain and its peculiarities, I diagnosed the case as one of congestive dysmenorrhea of neuralgic origin, the cause being some neurosis, remote the uterus, in which, because of its intimate relation with the rest of the body through the sympathetic system, a state of congestion had been induced.

The patient was immediately placed on the combination of Dioviurnia and Neurosine, mentioned in the preceding case. Early hours of retiring were enforced, and she was put on a diet, and open-air exercise ordered. She began to improve physically within a few weeks after treatment was commenced; her next flow was much more copious than it had been for years and the pain proportionately less, though still quite severe. The patient was kept on this method of treatment for about ten weeks, when the restriction on the diet was removed, continuing, however, with the Dioviurnia and Neurosine. The following periods were altogether normal in character and amount of flow, the pain was almost all gone and simply persisted as a few colicky cramps shortly before the menstrual flow started.

In this case the combination of Dioviurnia and Neurosine seems to have been an especially happy one. The results were surprisingly good and have greatly encouraged me in the treatment of these most obstinate cases.

[1824 Madison Av.]

Treatment of Inflammation

Through the medium of Antiphlogistine has the indorsement of every practitioner as the most approved method of curative procedure.

An X-Ray Tube with Adjustable Focus.

By R. V. WAGNER, M.D.
CHICAGO.

If one examines the outlines of a shadow from a light emanating from a large area—e.g., a gaslight—it will be seen to compare favorably with the outlines on a fluoroscope or on a pic-



Figure 1.

ture, when the x-ray is used from a tube having the anode out of focus. On the other hand, the outlines of a shadow emanating from a small area—e.g., an arc lamp—resemble the outlines on a fluoroscope or on a picture, when an x-ray tube having a sharply focused anode is used (Fig. 1).

The x-ray emanates from the molecular bombardment of the rarefied air in the tube on the surface of the anode. The structures of rarefied air are repelled from the concave disc or cathode forming the cathode rays or stream. This cathode stream striking the surface of the anode or disc in the center of the tube produces the x-ray. To obtain a sharp focus the anode must be given a distance from the cathode, just as an object must be given a distance from a lens to be in focus.

In making a Crookes tube by all methods used heretofore, it has been practically impossible to get the anode the required distance from the cathode, so as to obtain a sharp focus, as the stem supporting the anode had to be sealed in the glass by guess, and the tube exhausted before it could be tested, when if the anode was found defective in respect to its focus, it was too late to remedy the defect, without going to an expense nearly equal to that of making a new tube. A microscope can not be focused accurately by a person who guesses at the distance the lenses should be from an object, without looking through them. This would be much easier, however, than to focus a Crookes tube by guess, as to the distance the anode should be from the cathode, because of the skill required on the part of the glass-blower to seal in the stem supporting the anode, so as to hold it where he thinks it should be; his judgement of where it should be is purely guess-work because there is no way of testing until the tube is exhausted and properly excited.

The new features of my tube is in having the anode mounted on a threaded stem which can be magnetically

operated through the glass, so as to move the anode up and down or circumferentially with the surface of the tube, to obtain an absolutely accurate focus (Fig. 2).

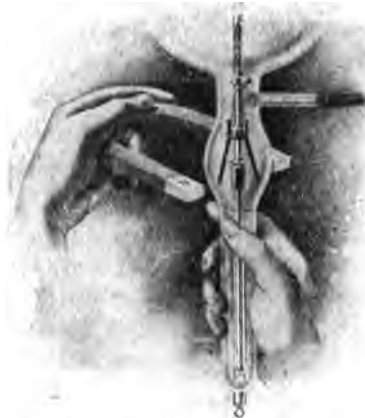


Figure 2.

The little armature on which the magnet acts can not possibly get out of adjustment, and will hold the anode in any required position, either in focus or out of focus, as the operator may desire for some therapeutic purpose.

When a cheap metal is used for the anode, it must out of necessity be out of focus because it will not stand up under the strain of having the molecular bombardment confined to a very small area, as is the case when the anode is in focus. Platinum is the only metal that will do for a sharply focused anode, as it not only stands a very high degree of heat, but is not broken down by the molecular bombardment like inferior metals, e.g., nickel steel.

In my tube the anode is completely covered by a plate of platinum made very thick at the focus. This plate of platinum is electrically welded to the

metal forming the body of the anode, and will stand an unusual degree of heat, and unlimited usage, even with the sharpest focus.

With my method of magnetically adjusting the anode, it is possible to make every tube alike, and to accurately focus the same after the tube is finished and in operation just as you focus a microscope by looking through the lenses, instead of guessing at the adjustment by observation as to the distance of the lenses.

In order to appreciate the vast difference in x-ray work due to the proper focusing of a tube, the sharpness of definition can be carefully tested by taking an ordinary wire screen, 20 holes to the linear inch (called a 20-mesh sieve), hold the fluoroscope 24 inches away from the tube, and it will be found that with a poorly-focused tube the screen will have to be brought very near the surface of the fluoroscope in order that the mesh be clearly distinguished. The nearer it is necessary to bring the screen to the surface of the fluoroscope, the more the tube is out of focus; but the farther away the screen is held and the mesh clearly distinguished, the more accurate is the focus of the tube. With a perfectly focused tube the holes in a 20-mesh screen will stand out perfectly clear at least 12 inches away from the fluoroscope, having the fluoroscope 24 inches away from the tube.

A few simple tests that will enable anyone to distinguish a good tube from a bad one should be carefully considered. X-ray workers posted on the requirements of a good tube will agree that it is more difficult to obtain a good tube to-day than it was a few years ago, before low-priced com-

petition arose, and that two tubes made in appearance exactly alike, with practically the same degree of vacuum, and the same quality of glass for the bulb, will give entirely different results, on account of the difference in the focus effecting the definition in radiographic work. Every operator will find that out of a large number of tubes, as made heretofore, but one will do good work, and one that he is willing to adopt as his "pet tube."

Shadow and Substance.

Now that the cod liver oil season is in full swing and the large and growing demand for this article made more apparent by the great scarcity of pure oil, the profession is better able to realize the position occupied by Scott's Emulsion. Every winter there is introduced at least one new cod liver oil preparation and until the following spring every inducement is made to unload it upon the public.

This year has been no exception, despite the great scarcity of pure cod liver oil. It is by reason of this latter condition that the profession should be careful what it recommends and uses in the way of cod liver oil preparations that are not absolutely guaranteed. With cod liver oil selling at unheard of prices the composition of some so-called emulsions, wines, extracts, etc., is likely to be far below the standard and comparatively worthless.

It has been a great protection to the profession to know that Scott's Emulsion has maintained its position as the standard emulsion of cod liver oil during this unsettled time and that its

CLINICAL NOTES.

quality and purity have not been changed in the slightest particular. Its popularity has never been menaced or its usefulness superseded by any of the hundreds of imitations that have come and gone since Scott's Emulsion was first offered for sale. Its success is due to the fact that it is the substance and not the shadow of cod liver oil.

Dust, Dirt and Germs.

Your sick-rooms are best freed from dust, dirt and germs if the sweeping is first done with a cloth-covered broom moistened with water containing just a little Platt's Chlorides. The furniture should be dusted with a cloth similarly moistened.

Atalantic City Line.

Owing to the expensive improvements made on the Baltimore & Ohio R. R. it is now recognized as one of the very best first-class railroad systems in the East.

Vestibuled trains leave St. Louis daily for Cincinnati, Louisville and Eastern cities.

Dining cars a la carte.

Ticket offices Olive and Sixth street, St. Louis, Mo.

Deadstock.

Gude's Pepto-Mangan, if we look over the field of preparations launched upon the market, claiming to be "just as good," "just the same," etc., and now relegated into oblivion, we will find their name is legion. Since its introduction to the medical profession of America, many manufactures through their representatives have heralded competing products as pos-

sessing wonderful medicinal properties. They were tried, found wanting, withdrawn from the market, and to-day find a resting place in some upper loft labeled, Deadstock. "Gude's" has stood the test of clinical investigation in both private and hospital practice; moreover, it has been before the profession during the last 12 years, and during this period has steadily grown in favor.—*Med. Ex. & Prac.*

The Effect was Miraculous.

Dr. P. O. Jones, Kansas City, Mo., says: "I prescribed your Satyria for a patient of mine; the effect was miraculous. In disorders of the sexual organs, your Satyria fills a long-felt necessity, and is a valuable addition to our list of remedies."

The Cough-Sequela of La Grippe.

Dr. John McCarty of Briggs, Texas, (Louisville Medical College) in giving his personal experience with this condition, writes as follows: "Ten years ago I had la grippe severely and every winter since, my cough has been almost intolerable. During January, 1902, I received a sample of Antikamnia & Heroin Tablets and began taking them for my cough, which distressed me all winter, and as they gave me prompt relief, I ordered an nounce box which I have since taken with continued good results. Last fall I again ordered a supply of Antikamnia & Heroin Tablets and I have taken them regularly all winter and have coughed but very little. I take one tablet every three or four hours, and they not only stop the cough, but make expectoration easy and satisfactory."

CLINICAL NOTES.

NERVOUS DISEASES: AND THEIR TREATMENT.

By DEERING J. ROBERTS, M.D.,

NASHVILLE, TENN.

Editor of the "Southern Practitioner."

In everyday practice there are few occasions more trying and taxing on both physician and patient than those cerebro-nervous affections so often presenting themselves in connection with pathological conditions in both married and unmarried women. "The commencement of menstruation," says Dr. Thos. More Maddin, of Berlin (*International Medical Annual*, 1896, page 429), "is marked by a sudden and complete revolution in the female mental as well as physical constitution, whilst at each succeeding monthly ovulation there is a coincident recurrence of constitutional and nervous disturbance acting on the general economy through the widespread ramifications of the vasomotor and sympathetic system." Furthermore, all practitioners are well aware that few women, indeed, are always entirely free from nervous disturbances, such as neurasthenia, neuralgia, and other manifestations of an active or passive character, in many instances remarkably rebellious to any and all forms of treatment.

The above-quoted distinguished author and clinician, who is sustained by all reliable observers, further states that "Foremost among the constitutional remedies by which we may hope to allay the abnormal nervous susceptibility or perverted molecular activity of the nervous centers are the special

nerve sedatives," making special allusion to the bromids, zinc, and others of like character.

We all know the dangers resulting from the use of such hypnotics and narcotics as opium, morphin, chloral, etc., and the general unsuitability of drugs of this class. Alas, how many bright and joyous lives have been wrecked and ruined by a resort to these narcotics from time to time until the special "drug habit" pertaining to the one or the other has been fully developed, the last condition of that individual being far worse than the first.

Having tried time and again, many and varied combinations of sedatives and anodynes, ever keeping a sharp lookout for the possibility or liability of setting up a habit far worse than the disease for the relief of which my aid was sought, I was much interested and my mind greatly impressed when I came across the preparation known as Neurosine, which contains no opium, morphin or chloral.

Neurosine is prepared in a perfect and palatable form by the Dios Chemical Co. It is a combination that might be compounded by practical and competent pharmacists, but these are not accessible to the general practitioners throughout the country, and even though they were, it is preferable to use a preparation compounded by

a reliable and trustworthy pharmaceutical establishment making a specialty of its preparation and who have obtained a reputation thereby, rather than to trust to the uncertain strength of drugs compounded and dispensed by druggists in many localities. Furthermore, it can be procured at a more reasonable price to the consumer. It is true, it is a proprietary preparation, but this makes it none the less a distinct compound of known and definite strength and composition. Its use is none the less ethical or rational. None of the drugs in it are of doubtful utility; all are well known, having been long tried, and we have here presented in permanent and palatable form an excellent and efficient combination. No one was a greater advocate for the combination of various remedies of like therapeutic effect than the great Trousseau himself, and all who have given the subject careful study fully coincide with him. I have been using this preparation many years and with most satisfactory results in quite a number of cases, as the following brief notes will show:

Mrs. J. D., 50 years of age, mother of eight children; menstruation had ceased some six years ago. Had all her life been subject to repeated attacks of neuralgic headache of the most agonizing character, coming on at irregular intervals, three or four to six or seven attacks each year. Had been blessed with most excellent health all her life, with this exception. Her father had similar attacks from early life up to a short time prior to his death at the age of 69. These attacks would completely prostrate her, the pain becoming so intense. Nausea and vomiting invariably set in after five or six hours of pain, which

would usually persist for 18 or 24 hours longer and then subside, leaving her completely prostrated for several days longer. Having exhausted every possible remedy or combination that I could devise in a number of years, with no better success than had been obtained by others in this particular case, about five year and a half ago, while visiting another patient at her residence, she announced to me that one of her usual visitations was at hand. I immediately gave her one teaspoonful of Neurosine with directions to repeat it in two or three hours if needed. I also gave her an alterative and laxative composed of aloes, rhubarb, ipecac, and calomel. Five doses of Neurosine were taken during the ensuing twenty-four hours, and the attack failed to develop. Four times since, in the last eighteen months, she has resorted to a similar procedure with like result, it being the first period of more than a year that she can remember during which she entirely escaped. This is only a typical case of quite a number of others of very similar character which have received more relief from this combination than any other previously tried.

B. M. R., 17 years of age, blond; pale, sallow, and rather tall and slender for her age, was brought to me by her mother nearly two years ago with the statement that menstruation first showed itself in her fifteenth year. It was scanty, accompanied with intense pain for the three or four days it lasted, completely prostrating her for nearly a week following. During that year it only appeared three times; the next year about seven times; during the past year occurring at intervals of from five to six weeks; a little more free now than at first, but still intensely

painful at each recurrence, causing her to keep her bed for more than a week each time. I advised keeping the bowels open with laxatives, if needed, and ordered her to commence the use of *Dioivburnia*, in teaspoonful doses, just before each meal and at bed time. As soon as she felt the first precursory pains (which she had now come to readily recognize) to take *Neurosine*, one teaspoonful, and repeat as often as needed, but not oftener than every three or four hours. With the use of not more than one fluid ounce of this very effective combination, the four succeeding days were passed in comfort, the flow more free than usual and no prostration whatever ensuing. I advised leaving off the *Dioivburnia* for two weeks, and then to commence its use again and to continue it until the next period should arrive, resort to *Neurosine* again as before. These directions were carefully carried out for about four months following, never using more than four or five doses of *Neurosine* at any period, and for the past six months she has been regular, and only occasionally takes one or two doses at the commencement of a period. As much exercise in the open air as possible, proper attention to her bowels, and general details were advised and carried out between the periods, and she is now quite robust, with clear, ruddy complexion—a picture of a young and healthy woman. This also is but one, yet a typical one of a series of similar cases

Mr. R. J., 47 years of age, had for years been addicted to periodical sprees, "filling his tank" to its utmost capacity for from 10 days to 2 weeks, then suffering the usual horrors and tortures for three or four days, followed by total abstinence for three or four months, sometimes longer. Was all his life quite healthy; attributed his drinking bouts to periods of depression, following excessive physical or mental labor. Was an active, energetic business man, who worked both

brain and body. Called to see him at the termination of one of his storms. Found him suffering from insomnia, nervousness, thirst, headache, and the usual horrors necessarily coincident to a ten days' excess of alcohol. Gave him at once a good mercurial and vegetable cathartic, and *Neurosine*, two teaspoonsful. He slept well all night; bowels moved freely the next morning; ate a light breakfast, and resumed his usual duties. One teaspoonful of *Neurosine* was repeated that night at bed time and the following night. He said he had got off easier that time than ever before but did not want the necessity to occur again, even if he did get off so easily. I advised him when he again felt the inclination to "tank up" to immediately take a teaspoonful of *Neurosine* and repeat it three or four times a day; at the same time to take $\frac{1}{16}$ gr. strychnia sulph. just before each meal, continuing the latter for ten or fifteen days, leaving off the former as soon as he found the inclination for a stimulant subsiding. This he has done for the last two years without a single debauch arising.

In quite a number of other cases of acute alcoholisms, and in two cases of delirium tremens this combination has proven most satisfactory in my hands. It has none of the dangers of opium, morphia, and chloral as other preparations. As a hypnotic in these cases, affording rest to the overwrought and harassed nervous system, it has proven most beneficial.

I have given briefly the outlines of the three above types of nervous derangement, which with other cases of similar character, and in epilepsy, it has acted very efficaciously; in paroxysms of asthma, when other remedies had failed; and in some cases of hysteria, when I wanted a nervous sedative with the least harmful after-effects. I have found *Neurosine* so uniformly satisfactory that I but deem it my duty to let others know the

benefit I have derived from it. Other cases might be cited but it is unnecessary. This preparation has been endorsed in most favorable terms by my former contemporary, the late Dr. F. L. Sim, when editor of the *Memphis Medical Monthly*, and Dr. L. B. Edwards, editor of the *Virginia Medical Semi-Monthly*, and others well known as the most ethical of the ethical, who have tried it in the scales of experience and found it *not wanting*; and although it is a 'proprietary preparation,' it is a most effective and satisfactory combination, and in accordance with the time-honored Hypocratic oath, "I will follow that system of regimen (or treatment) which, according to my ability and judgment, I consider for the benefit of my patients.

In cases of dysmenorrhea, due to organic conditions of the uterus or its appendages, I do not expect it alone to cure, but it will prove a most valuable aid to any logical measures that may be necessary. At a recent meeting of the Brooklyn Gynecological Society, Dr. A. J. C. Skene (*Brooklyn Med. Jour.*, Vol. II., No. 3, p. 185), in speaking of this condition, said:

"You are very well aware that dysmenorrhea may be due to one of four causes: First, dysmenorrhea due to structural lesions of the uterus itself, malformations, or an undue density of the structure of the uterus which interferes with the hyperemia that occurs with the menstrual wave; second, dysmenorrhea due to inflammatory affections of the uterus; and there is a dysmenorrhea which is not properly named, and that is pain during menstruation due to ovarian disease; and lastly, pure nervous dysmenorrhea or a dysmenorrhea that is pure and simple neurosis."

In the first three forms Neurosine will prove a most valuable adjuvant to any local or general gynecic measures that may be instituted, and supplies a want that all general practitioners have often needed, and for which only too frequent resort has been made to narcotics and anodynes, from which

temporary relief has been obtained at the expense of future long-standing, if not permanent detriment. In the last form of dysmenorrhea, especially that occurring, as it so frequently does, in the unmarried female, I have found it peculiarly invaluable. I have always most earnestly protested against a resort to instrumental treatment in such cases, except as a *dernier resort*, and only after a long, patient, persistent, and rational therapeutic measures of a general character had been tried. In such cases in the recent past, I have had the most satisfactory results from Neurosine combined with Dioiburnia, equal parts.

Uric-Arthrin.

The advertisement of Uric-Arthrin Manufacturing Company appears in this number for the first time. Uric-Arthrin is certainly one of the most powerful solvents of uric acid in its pulverulent form, also when in the form of hard calculi deposits. Doctor it is worth while for you to give Uric-Arthrin a trial. You may expect to obtain results that will be entirely satisfactory to yourself. It is perfectly agreeable to the stomach, pleasant to take, producing none of the nauseating symptoms so common with other remedial agents heretofore used in cases arising from excessive uric acid. The ingredients entering into the manufacture of Uric Arthrin is made of pure herb extracts containing no salicylates, potassium, colchicum, opium or chloral. No detrimental after-effects from its use. Doctors need not send their rheumatic patients away for change of climatic, for they can successfully treat them at home by the use of Uric-Arthrin. In acute cases of rheumatism improvement may expect to be noticed in 24 to 36 hours, the uric acid deposits being speedily and thoroughly removed. The Uric-Arthrin Manufacturing Company, proffer to furnish to the Doctors a full size 8-oz. bottle free, express prepaid. Write for trial bottle mentioning the COURIER.

CLINICAL NOTES.

UTERINE DISORDERS :

TREATMENT OF BY THE GENERAL PRACTITIONER.

By D. S. MADDOX, M.D.,

Coroner of Marion County, Ohio.

That a very large percentage of the ailments of the female pelvic organs can be relieved and cured by intelligent and well directed local and constitutional treatment, is a fact which is becoming more and more evident every day. Indeed it has always been held by the careful and conservative element of the medical profession that resort to the surgeon's knife is vastly of more frequent occurrence than there is necessity for. The profession at large, however, gave way to the craze for indiscriminate operating; not only in the domain of gynecology, but in every branch of the art and science of medicine, until now the general practitioner is become little else than a drummer for the surgical specialist. Such abject and absolute surrender to the specialist has injured the physician in more ways than one. The diminution of professional income has been marked, likewise the prestige; and that abiding faith and confidence which was wont to be reposed in the family physician is now, most unhappily, a thing of the past. The signs of the times, however, point to an awakening of the profession to the evils brought about by a monopolizing specialism. The family physician is beginning to see the disadvantages, both to himself and patient, of this wholesale deference

to the specialist, and in consequence thereof many physicians are now treating successfully cases which but recently would have been turned over to the gynecological surgeon for mutilating operations. In order to illustrate, in a measure, the value of local and constitutional treatment I beg to submit the subjoined clinical notes.

CASE 1.—A married woman, age 32. For several months had complained of dull heavy pains in abdomen and back, worse during menstrual periods. Menstruation was scanty and irregular, and there was a moderate leucorrheal discharge. She had lost flesh, was weak, had little appetite, and slept badly.

A specialist whom she had consulted had advised removal of the ovaries and tubes, as the only relief. Examination revealed ovaries tender and somewhat enlarged, also endometritis.

She was ordered a hot boric injection twice daily, and put upon the following prescription :

R Dioiburnia.....ʒij
Fl. ext. cimicifuga.....
Fl. ext. hydratis.....aa ʒss
Elix. simplex....ad q. s. ʒiv

M. Sig.—Two teaspoonfuls four times a day.

Under the above treatment improvement began at once, and in two months she was discharged cured.

CASE 2.—A virgin, age 21, pale, anemic, nervous, and of poor muscular development. For two years menstruation had been profuse, with occasional metrorrhagia. Her principle trouble, however, was dysmenorrhea, the severity of the attacks often compelling her to resort to opiates. The following prescription was ordered, conjoined with regular and systematic exercise in the open air:

R Sodii brom..... \mathfrak{z} iv
 Dioviburnia..... \mathfrak{z} ij
 Fl. ext. ergot..... \mathfrak{z} iv
 Elix. simp.....ad. \mathfrak{z} iv

M. Sig.—Two teaspoonfuls three times daily.

This was continued for eight weeks when an addition was made to the treatment in the shape of elixir iron, quinin and strychnin. An occasional saline laxative was also given to overcome a tendency to constipation. The patient has now, at the end of three months, gained sixteen pounds in weight; the rosy hue of health is on her cheeks, and the menstrual function is normal. In conclusion I wish to remark that the preparation Dioviburnia contained in the above prescriptions, is one of the best uterine remedies I have ever encountered. I must confess, however, that I was prejudiced against it at first (as I am against proprietary medicines in general), but hearing it recommended by a physician of eminence and a gentleman for whom I entertain the warmest personal regard, I was lead to give it a trial. In a number of other cases besides those related here, I have had most excellent results from Dioviburnia. In cases requiring an antispas-

modic I have found it of especial benefit. In some cases I prescribe it alone, but generally in combination with other remedies.

Elastic Truss.

The Elastic Truss manufactured by Flavell's, fitted with their celebrated Pneumatic Pad, can be worn at all times with comfort and ease. It is a source of pleasure to the Profession who fit and recommend Trusses, Elastic Stockings, Abdominal and Uterine Supporters to their patients, to know where a perfect and reliable appliance, that gives universal satisfaction, can be secured. Write for their catalogue by addressing. G. W. Flavell & Bro., 1005 Spring Garden St., Philadelphia.

Begin in Time.

Physicians who have among their clientel, patients who suffer annually from the condition commonly known as Hay Fever or Rose Cold, and it is doubtless true that a number of ordinary cases of Catarrh are so misnamed, will secure the everlasting gratitude of such patients if they will have them anticipate the expected attack by the preliminary treatment of the membranes usually involved, with Formaldehyde-Kelene (used locally by inhalation) in Hay Fever, Catarrh, Ozena, etc., its anesthetic properties give prompt relief, and its powers as a disinfectant sometimes removes the cause of the disease.

We suggest to our readers the advisability of writing to Messrs. Fries Bros., 92 Reade St., New York for further information in reference to the use of Formaldehyde-Kelene in the conditions mentioned above.

Most Satisfactory.

There is still some difference of opinion among physicians as to whether the preparations of the active principles of cod liver oil fully replace the administration of the oil itself. There can, however, be no difference of opinion as to the superiority of these preparations during certain periods of the year. During the summer months especially we have found them of great use, for there is a marked loathness on the part of patients to take emulsion or preparations having an oily nature. Among these preparations we have found Hagee's Cordial of Cod Liver Oil one of the most satisfactory. It is exceedingly palatable, can be taken by those with the most delicate digestion, without any disturbance of the same, and its effects are rapidly observed.—*Colorado Med. Jour.*

Palatability in Therapeutics.

Palatability of food is indispensable to quick digestion and in the case of medicine it is of just as much importance to administer it so as to prevent nauseating our patients.

In Konseals we have an ideal covering, sufficiently varied in size to meet all requirements in the size of the dose, made of most carefully selected and purest rice flour, perfectly soluble and retaining their solubility indefinitely. They do not, and can not act chemically on the most sensitive drug. They are convenient, inexpensive and capable of quick dispensing. Konseals protects from all atmospheric changes and carry the drug to the stomach, quickly, easily and without causing the slightest

nausea from any of the most nauseating drugs.

They are elegant and dainty in appearance. Easily and promptly digested, being acceptable, to even an irritated and disturbed stomach and can not offend in any manner the most sensitive palate.—*Alkaloidal Clinic*, May, 1904.

The Cure of Consumption.

Nearly five ago, I sent you a confidential report of a case of a tubercular patient, who was treated with Protonuclein and recovered under that treatment. At present he is in perfect health, an expert mechanic and with this indoor labor he still retains the health that Protonuclein gave him. You now have my permission to publish the report given at that time, since sufficient time has elapsed to warrant it and it is without the least hesitation I indorse Protonuclein as a reconstructive.

M. W., aged 27 years, farmer, weight, in health 140 pounds, married. Family history negative. Patient was pronounced tuberculous in 1883. He had two attacks of hemoptysis. The characteristic anemia and progressive cough have been constant throughout. He has, with the exception of a few exacerbations of an accompanying otorrhea (tuberculosis), been able to go about and do light labor up to November 6, 1899, when he was confined to bed and sent for me. I found that the discharge from ear had gradually ceased. Cough and the mouth dry. Temperature 103°, pulse 144, respirations 36. Skin subicteroid in color, tongue tremulous, red edges and tips, a brownish streak on either

side of a semicoated middle streak, which was nearly clear exactly in the median line, dry and showing indentations on both edges, "the tongue of a hard case." Appetite good, constipation. Urine of jaundice with a small percentage of albumin. He was put upon eliminative treatment including enteroantiseptics—salol and calomel. On November 24, 1899, the characteristics of typhoid clearly manifested themselves, rose spots, tympanites, etc. Fifteen days later, pneumonic symptoms appeared and during the night of December 9th, an alarming epistaxis occurred to be repeated again on the 10th and 11th. By this time he was reduced to a dangerous degree of anemia notwithstanding the lower lobes of both lungs were solidified and unmistakable cavernous breathing at apex of left lung. Pulse was clearly indicative of early dissolution. Hot packs, alcoholics, saline injections and vigorous, but guarded alimentations was persevered in for nine days, which brought him, barely alive, out of the semidelirious state, which he had been in since December 2nd. At this juncture Protonuclein was introduced and ordered in 6 grain doses every 4 hours with a tablespoonful Trophonine in the interval. All other medicine was stopped. He had at this time a temperature of 103° , pulse 122, respirations 24. Cough, paroxymal, heavy and anything but favorable. Expectations profuse, mucopurulent and streaked with bright red blood, almost completely exhausting him with each effort to have it removed from his mouth. Urine and feces often passed involuntarily. (This was December 21, 1899). The Protonuclein and Tro-

phonine were persevered in. Almost immediately after beginning with them the patient asked me "If the medicine had not been changed as this made him feel stronger and better than anything yet used." (He had been taking 3 to 4 ounces of whisky and $\frac{1}{30}$ gr. strychnin in the twenty-fours.) January 9, 1900, I found him sitting in the rocker beside the bed, convalescence surprisingly in evidence. Every organ resuming its healthy function, his hearing was improved fully 50 per cent, he had heretofore been three-fourths deaf. Now he can converse in an ordinary conversation and is going about, cough almost entirely gone, expectoration almost *nil*, with satisfactory evidence of pulmonary cicatrization. Undoubtedly the powers of life were towed once more to action by this remedy, as nothing else has been used since December 21st. I am forced to conclude that the administration of a regenerator so potent as Protonuclein, following an ordeal such as typhoid or pneumonia in a phthisical patient, assisted by the natural process of repair with new blood, new cells, new tissue, new life will actually override and cure the existing tuberculous lesion.—Lewis W. Spradling, M.D., Athens, Tenn., April 15, 1904.

I have used the sample bottle you sent me. I think Germiletum is a great medicine, the bottle I used did more good in a very severe case of eczema than all the other preparation I have ever used and I have tried a great many. Dr. F. R. Keefer,
Marshfield, Ind.

~~Copy~~

COUNTWAY LIBRARY



HC 3XMT U

